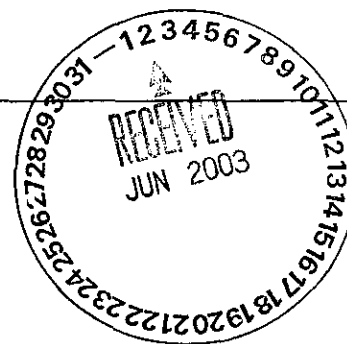




0059843

30 May 2003



Joan Kessner
Bechtel-Hanford, Inc.
3190 Washington Way
MSIN H9-03
Richland, WA 99352

Subject: Contract No. 630
Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	03051 432
SDG #	H2222
SAF #	B03-015
Date Received	5-17-03
# Samples	4
Matrix	Soil
Volatiles	
Semivolatiles	X
Pest/PCB	X
DRO/KRO/GRO	
GC Alcohols	
Herbicides	X
Metals	X
Inorganics	X

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

r:\group\pm\orlette\tnu-hanford\data\b_ltrs.doc

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222



DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NL0	001	S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK7	002	S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK7	002 MS	S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK7	002 MSD	S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK8	003	S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK9	007	S	03LE0624	05/15/03	05/23/03	05/27/03

LAB QC:

SBLKUB	MB1	S	03LE0624	N/A	05/23/03	05/25/03
SBLKUB	MB1 BS	S	03LE0624	N/A	05/23/03	05/25/03



Client: TNU-HANFORD B03-015
LVL #: 0305L432
SDG/SAF # H2222/B03-015

W.O. #: 11343-606-001-9999-00
Date Received: 05-17-2003


SEMIVOLATILE

Four (4) soil samples were collected on 05-13,15-2003.

The samples and their associated QC samples were extracted according to Lionville Laboratory OPs based on method 3550 on 05-23-2003 and analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 05-25,27-2003.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. Samples were extracted and analyzed within required holding time.
3. Non-target compounds were detected in the samples.
4. Most samples required a 10-fold dilution due to the nature of the sample matrix. The summary form does not reflect the correct dilution factor due to programming limitations. A copy of the Sample Extraction Record has been enclosed (p-23 & 24).
5. All surrogate recoveries were within EPA QC limits.
6. Two (2) of twenty-one (21) obtainable matrix spike recoveries were outside EPA QC limits.
7. All blank spike recoveries were within EPA QC limits.
8. The method blank contained the common laboratory contaminants Di-n-butylphthalate and Bis (2-Ethylhexyl) phthalate at levels less than the CRQL.
9. Internal standard area and retention time criteria were met.
10. Manual integrations are performed according to OP 21-06A-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.


J. Michael Taylor
President
Lionville Laboratory Incorporated

05-29-03

Date

son\gonup\data\bna\tnu-hanford-0305-432.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 24 pages.

GLOSSARY

DATA QUALIFIERS

- U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I = Interference.
- NQ = Result qualitatively confirmed but not able to quantify.
- A = Indicates that a TIC is a suspected aldol-condensation product.
- N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

mmz\10-94\gloss.bna



TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

- MP - Missed Peak: manually added peak not found by automatic quan program.
- PA - Peak Assignment: quan report was changed to reflect correct peak assignment.
- RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
- SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
- PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 05/27/03 11:07

RFW Batch Number: 0305L432

Client: TNUHANFORD B03-015 H2222

Work Order: 11343606001

Page: 1a

Cust ID:		J00NL0	J00NK7	J00NK7	J00NK7	J00NK8	J00NK9
Sample RFW#:		001	002	002 MS	002 MSD	003	007
Information Matrix:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
D.F.:		1.00	20.0	40.0	20.0	20.0	10.0
Units:		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	88 %	76 %	82 %	78 %	70 %	67 %
	2-Fluorobiphenyl	82 %	76 %	84 %	79 %	73 %	74 %
	Terphenyl-d14	107 %	99 %	107 %	108 %	97 %	98 %
	Phenol-d5	80 %	85 %	86 %	83 %	77 %	72 %
	2-Fluorophenol	79 %	82 %	83 %	81 %	73 %	71 %
	2,4,6-Tribromophenol	87 %	61 %	59 %	58 %	52 %	55 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====							
Phenol		330 U	7500 U	89 %	86 %	7500 U	3500 U
bis(2-Chloroethyl) ether		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2-Chlorophenol		330 U	7500 U	82 %	78 %	7500 U	3500 U
1,3-Dichlorobenzene		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
1,4-Dichlorobenzene		330 U	7500 U	74 %	73 %	7500 U	3500 U
1,2-Dichlorobenzene		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2-Methylphenol		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2,2'-oxybis(1-Chloropropane)		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
3- and/or 4-Methylphenol		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
N-Nitroso-di-n-propylamine		330 U	7500 U	85 %	81 %	7500 U	3500 U
Hexachloroethane		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Nitrobenzene		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Isophorone		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2-Nitrophenol		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2,4-Dimethylphenol		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
bis(2-Chloroethoxy) methane		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2,4-Dichlorophenol		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
1,2,4-Trichlorobenzene		330 U	7500 U	77 %	75 %	7500 U	3500 U
Naphthalene		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
4-Chloroaniline		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Hexachlorobutadiene		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
4-Chloro-3-methylphenol		330 U	7500 U	93 %	86 %	7500 U	3500 U
2-Methylnaphthalene		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Hexachlorocyclopentadiene		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2,4,6-Trichlorophenol		330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2,4,5-Trichlorophenol		840 U	19000 U	37000 U	19000 U	19000 U	8800 U

*= Outside of EPA CLP QC limits.

Cust ID:	J00NL0	J00NK7	J00NK7	J00NK7	J00NK8	J00NK9
RFW#:	001	002	002 MS	002 MSD	003	007
2-Chloronaphthalene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2-Nitroaniline	840 U	19000 U	37000 U	19000 U	19000 U	8800 U
Dimethylphthalate	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Acenaphthylene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2,6-Dinitrotoluene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
3-Nitroaniline	840 U	19000 U	37000 U	19000 U	19000 U	8800 U
Acenaphthene	330 U	7500 U	88 %	81 %	7500 U	3500 U
2,4-Dinitrophenol	840 U	19000 U	37000 U	19000 U	19000 U	8800 U
4-Nitrophenol	840 U	19000 U	D %	44 %	19000 U	8800 U
Dibenzofuran	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
2,4-Dinitrotoluene	330 U	7500 U	56 %	56 %	7500 U	3500 U
Diethylphthalate	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
4-Chlorophenyl-phenylether	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Fluorene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
4-Nitroaniline	840 U	19000 U	37000 U	19000 U	19000 U	8800 U
4,6-Dinitro-2-methylphenol	840 U	19000 U	37000 U	19000 U	19000 U	8800 U
N-Nitrosodiphenylamine (1)	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
4-Bromophenyl-phenylether	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Hexachlorobenzene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Pentachlorophenol	840 U	19000 U	219 * %	127 * %	19000 U	8800 U
Phenanthrene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Anthracene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Carbazole	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Di-n-butylphthalate	140 JB	7500 U	15000 U	7500 U	7500 U	3500 U
Fluoranthene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Pyrene	330 U	7500 U	131 %	122 %	7500 U	3500 U
Butylbenzylphthalate	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
3,3'-Dichlorobenzidine	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Benzo(a)anthracene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Chrysene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
bis(2-Ethylhexyl)phthalate	33 JB	7500 U	15000 U	7500 U	7500 U	3500 U
Di-n-octyl phthalate	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Benzo(b)fluoranthene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Benzo(k)fluoranthene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Benzo(a)pyrene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Indeno(1,2,3-cd)pyrene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Dibenz(a,h)anthracene	330 U	7500 U	15000 U	7500 U	7500 U	3500 U
Benzo(g,h,i)perylene	330 U	7500 U	15000 U	490 J	440 J	3500 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

Semivolatiles by GC/MS, HSL List

Report Date: 05/27/03 11:07

Client: **TNUHANFORD B03-015 H2222**

Work Order: 11343606001

Page: 2a

SBLKUB BS

RFW#: 03LE0624-MB1 03LE0624-MB1

Matrix: SOIL SOIL

D.F.:	1.00	1.00
-------	------	------

Units: ug/Kg ug/Kg

[illegible]

*= Outside of EPA CLP OC limits.

Cust ID: SBLKUB

SBLKUB BS

RFW#: 03LE0624-MB1 03LE0624-MB1

2-Chloronaphthalene	330 U	330 U
2-Nitroaniline	840 U	840 U
Dimethylphthalate	330 U	330 U
Acenaphthylene	330 U	330 U
2,6-Dinitrotoluene	330 U	330 U
3-Nitroaniline	840 U	840 U
Acenaphthene	330 U	73 %
2,4-Dinitrophenol	840 U	840 U
4-Nitrophenol	840 U	60 %
Dibenzofuran	330 U	330 U
2,4-Dinitrotoluene	330 U	83 %
Diethylphthalate	330 U	330 U
4-Chlorophenyl-phenylether	330 U	330 U
Fluorene	330 U	330 U
4-Nitroaniline	840 U	840 U
4,6-Dinitro-2-methylphenol	840 U	840 U
N-Nitrosodiphenylamine (1)	330 U	330 U
4-Bromophenyl-phenylether	330 U	330 U
Hexachlorobenzene	330 U	330 U
Pentachlorophenol	840 U	47 %
Phenanthrene	330 U	330 U
Anthracene	330 U	330 U
Carbazole	330 U	330 U
Di-n-butylphthalate	31 J	330 U
Fluoranthene	330 U	330 U
Pyrene	330 U	81 %
Butylbenzylphthalate	330 U	330 U
3,3'-Dichlorobenzidine	330 U	330 U
Benzo(a)anthracene	330 U	330 U
Chrysene	330 U	330 U
bis(2-Ethylhexyl)phthalate	21 J	330 U
Di-n-octyl phthalate	330 U	330 U
Benzo(b)fluoranthene	330 U	330 U
Benzo(k)fluoranthene	330 U	330 U
Benzo(a)pyrene	330 U	330 U
Indeno(1,2,3-cd)pyrene	330 U	330 U
Dibenz(a,h)anthracene	330 U	330 U
Benzo(g,h,i)perylene	330 U	330 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

J00NLO

Lab Name: Lionville Labs, Inc. Work Order: 11343606001Client: TNUHANFORD B03-015 H2222Matrix: (soil/water) SOILLab Sample ID: 0305L432-001Sample wt/vol: 30.0 (g/mL) GLab File ID: D052611Level: (low/med) LOWDate Received: 05/17/03% Moisture: 0 decanted: (Y/N) Date Extracted: 05/23/03Concentrated Extract Volume: 1000 (uL)Date Analyzed: 05/27/03Injection Volume: 2.0 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) NpH: 7.0

CONCENTRATION UNITS:

Number TICs found: 5(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.396	80	J
2.	ALDOL CONDENSATE	4.779	300	JA
3.	ALDOL CONDENSATE	5.361	20000	JAB
4.	ALDOL CONDENSATE	6.605	200	JA
5.	UNKNOWN	21.081	200	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J00NK7

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

Matrix: (soil/water) SOIL

Lab Sample ID: 0305L432-002

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D052612

Level: (low/med) LOW

Date Received: 05/17/03

% Moisture: 11 decanted: (Y/N)

Date Extracted: 05/23/03

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/27/03

Injection Volume: 2.0 (uL)

Dilution Factor: 20.0

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 2

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	19 - 36 MINUTES			
2.	UNRESOLVED HYDROCARBONS			
3.	ALDOL CONDENSATE	5.159	30000	JAB
4.	UNKNOWN	22.170	3000	J

11

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J00NK8

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

Matrix: (soil/water) SOIL

Lab Sample ID: 0305L432-003

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D052615

Level: (low/med) LOW

Date Received: 05/17/03

% Moisture: 11 decanted: (Y/N) __

Date Extracted: 05/23/03

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/27/03

Injection Volume: 2.0 (uL)

Dilution Factor: 20.0

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 5

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	19 - 36 MINUTES			
2.	UNRESOLVED HYDROCARBONS			
3.	ALDOL CONDENSATE	5.204	30000	JAB
4.	UNKNOWN	21.437	2000	J
5.	UNKNOWN	22.176	2000	J
6.	UNKNOWN	22.915	2000	J
7.	UNKNOWN	25.793	4000	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J00NK9

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

Matrix: (soil/water) SOIL

Lab Sample ID: 0305L432-007

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D052616

Level: (low/med) LOW

Date Received: 05/17/03

% Moisture: 5 decanted: (Y/N)

Date Extracted: 05/23/03

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/27/03

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 1

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	19 - 36 MINUTES			
2.	UNRESOLVED HYDROCARBONS			
3.	ALDOL CONDENSATE	5.205	9000	JAB

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKUB

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

Matrix: (soil/water) SOIL

Lab Sample ID: 03LE0624-MB1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D052513

Level: (low/med) LOW

Date Received: 05/23/03

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 05/23/03

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/25/03

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 3

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.014	100	J
2.	ALDOL CONDENSATE	5.353	5000	JA
3.	UNKNOWN	6.692	200	J

A B - C D E

Special Instructions: SAE # B03-015

Run Matrix Q.C (Do Not Use - 004)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Samples were:

1) Shipped ☒ or
Hand Delivered _____
Airbill # _____

2) Ambient or Chilled ☒

3) Received in Good
Condition ☒ or N

4) Samples
Properly Preserved ☒ or N

5) Received Within
Holding Times ☒ or N

Tamper Resistant Seal was:

1) Present on Outer
Package ☒ or N

2) Unbroken on Outer
Package ☒ or N

3) Present on Sample
☒ or N

4) Unbroken on
Sample ☒ or N

COC Record Present
Upon Sample Rec't ☒ or N

Cooler
Temp. 0.3 °C

Relinquished by	Received by	Date	Time
Geo. E.	D. Smith	5-17-03	1155

Relinquished by	Received by	Date	Time
COMPOSITE	ORIGINAL		
WASTE	REWRITTEN		

Discrepancies Between
Samples Labels and
COC Record? Y or N

NOTES:

790292049170/0.8 - 79225014 4333

Bechtel Hanford Inc.			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						
Collector Fahlberg		Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B	Data Turnaround
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>		7 Days	
Ice Chest No. ERC 96039		Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX			
Shipped To TM/RECRA		Offsite Property No. A030231				Bill of Lading/Air Bill No. SOB OSPCL			
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage <div style="text-align: center;">COOL 4°C</div>				Preservation		None	Cool 4C	Cool 4C	
				Type of Container		aG	aG	aG	
				No. of Container(s)		1	1	1	
				Volume		60mL	120mL	60mL	
SAMPLE ANALYSIS				See item (1) in Special Instructions.		Semi-VOA - B270A (TCL)	VOA - B260A (TCL)		
Sample No.	Matrix *	Sample Date	Sample Time						
J00NLO	SOIL	5.13.03	0900	X	X				
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS			
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time	(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5.16.03			
R. Fahlberg		5.13.03	J. A. 3728		5.13.03				
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time				
REF 3A 3728		51603 1100	S. J. GALE		51603 1100				
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time				
S. J. GALE		51603 1100	FED EX						
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time	Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other			
Fed Ex		5.17.03 1155	J. J. Smith		5.17.03 1155				
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time				
LABORATORY SECTION		Received By		Title		Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time			

Bechtel Hanford Inc.			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-98		Page 1 of 1		
Collector Fahlberg			Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil			Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 96 039			Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX					
Shipped To <u>TM/RECRA</u>			Offsite Property No. A030231				Bill of Lading/Air Bill No. SEE OSPC					
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage Cool 4°C				Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
				Type of Container	aG	aG	aG	aG	aG	aG		
				No. of Container(s)	1	1	1	1	1	1		
				Volume	60mL	240mL	120mL	60mL	120mL	120mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions	PCBs - 8082, Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Sulfides - 9030	Total Cyanide - 9010			
Sample No.	Matrix *	Sample Date	Sample Time									
J00NK7	SOIL	5-13-03	0920	X	X	X		X	X			
J00NK8	SOIL	5-13-03	0920	X	X	X		X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # <u>SA</u> on <u>5/16/03</u>				
R. F. Fahlberg		5.13.03		3A 3728		5.13.03						
R. F. Fahlberg		5.13.03		S. J. Gale		5.16.03						
S. J. Gale		5.16.03		FED EX								
S. J. Gale		5.17.03		J. J. Miller		5.17.03						
J. J. Miller		5.17.03										
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		Matrix * S=Soil SE=Sediment SO=Solid Sl=Sludge W=Water O=Oil A=Air DS=Dry Solids DL=Dry Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time						
LABORATORY SECTION		Received By		Title				Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time				

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-103		Page 1 of 1	
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area				SAF No. B03-015		Air Quality <input type="checkbox"/>	
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex			
Shipped To <u>TM/RECRA</u>		Offsite Property No. A030232				Bill of Lading/Air Bill No. SEE OSP.C			
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage					Preservation	None	Cool 4C	Cool 4C	
					Type of Container	aG	aG	aG	
					No. of Container(s)	1	1	1	
					Volume	60mL	120mL	60mL	
SAMPLE ANALYSIS					See item (1) in Special Instructions	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)		
Sample No.	Matrix *	Sample Date	Sample Time						
J00NPO	SOIL	5-14-03	0830	X	X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS	
Relinquished By/Removed From <u>Doug Bowers</u> Date/Time <u>5-14-03/1130</u>		Received By/Stored In <u>Ref 3A 3728</u> Date/Time <u>5-14-03/1130</u>		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Do not use for QA/QC. Personnel not available to relinquish samples from the 3728 Ref # <u>3A</u> on <u>5/16/03</u>					
Relinquished By/Removed From <u>Ref 3A 3728</u> Date/Time <u>51603 1100</u>		Received By/Stored In <u>SSCALE/AL</u> Date/Time <u>51603 1100</u>							
Relinquished By/Removed From <u>SSCALE/AL</u> Date/Time <u>51603 1100</u>		Received By/Stored In <u>FED EX</u> Date/Time							
Relinquished By/Removed From <u>Alfred E</u> Date/Time <u>5-17-03 1155</u>		Received By/Stored In <u>2/2/03</u> Date/Time <u>5-17-03 1155</u>							
Relinquished By/Removed From		Received By/Stored In							
Relinquished By/Removed From		Received By/Stored In							
LABORATORY SECTION		Received By		Title				Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time	

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-102		Page 1 of 1																																		
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B Data Turnaround 7 Days																																		
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>																																				
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex																																				
Shipped To TM/RECRA		Offsite Property No. A030232				Bill of Lading/Air Bill No. SEE OPR																																				
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage					Preservation	None	Cool 4C	Cool 4C	Cool 4C	40C																																
					Type of Container	aG	aG	aG	aG	aG																																
					No. of Container(s)	1	1	1	1	1																																
					Volume	60mL	250mL	120mL	60mL	60mL																																
SAMPLE ANALYSIS					See item (1) in Special Instructions.	PCBs - 8082, Pesticides - 8081; Chloro-Herbicides - EPA 8151 5-11-03	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (total) 418.1																																	
Sample No.	Matrix *	Sample Date	Sample Time																																							
J00NN7	SOIL	5-14-03	0900	X	X	X																																				
J00NN8	SOIL	5-14-03	0900	Y	Y	X																																				
J00NN9	SOIL																																									
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>CHAIN OF POSSESSION</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Relinquished By/Removed From</th> <th>Date/Time</th> <th>Received By/Stored In</th> <th>Date/Time</th> </tr> <tr> <td>Doug Bowers</td> <td>5-14-03/1130</td> <td>REF 3A 3728</td> <td>5-14-03/1130</td> </tr> <tr> <td>REF 3A 3728</td> <td>51603 1100</td> <td>SJ GALE</td> <td>51603 1100</td> </tr> <tr> <td>WJ GALE</td> <td>51603 1100</td> <td>FED EX</td> <td></td> </tr> <tr> <td>FED EX</td> <td>51703 1155</td> <td>D J GALE</td> <td>51703 1155</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table> </div> <div style="width: 48%;"> <p>SPECIAL INSTRUCTIONS</p> <p>(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)</p> <p>Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03</p> </div> <div style="width: 4%; text-align: center;"> <p>Matrix *</p> <p>S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W1=Wipe L=Liquid V=Vegetation X=Other</p> </div> </div>															Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Doug Bowers	5-14-03/1130	REF 3A 3728	5-14-03/1130	REF 3A 3728	51603 1100	SJ GALE	51603 1100	WJ GALE	51603 1100	FED EX		FED EX	51703 1155	D J GALE	51703 1155								
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time																																							
Doug Bowers	5-14-03/1130	REF 3A 3728	5-14-03/1130																																							
REF 3A 3728	51603 1100	SJ GALE	51603 1100																																							
WJ GALE	51603 1100	FED EX																																								
FED EX	51703 1155	D J GALE	51703 1155																																							
LABORATORY SECTION		Received By		Title		Date/Time																																				
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time																																				

Bechtel Hanford Inc.				CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-99		Page 1 of 1	
Collector Fahlberg				Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil				Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 96 039				Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX					
Shipped To TMA/RECRA				Offsite Property No. A030231				Bill of Lading/Air Bill No. SEE OSPL					
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage COOL 4°C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
				Type of Container		aG	aG	aG	aG	aG	aG	aG	
				No. of Container(s)		1	1	1	1	1	1	1	
				Volume		60mL	240mL RINSING	120mL	60mL	60mL	120mL	120mL	
SAMPLE ANALYSIS				See item (1) in Special Instructions.		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1	Sulfides - 9030	Total Cyanide - 9010		
Sample No.		Matrix *	Sample Date	Sample Time									
J00NK9		SOIL	5-15-03	1200	X	X	X		X	X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS					Matrix * S=Soil SE=Soil SQ=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W1=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From R. GORR R. Fahlberg		Date/Time 5-15-03		Received By/Stored In 3A 3728		Date/Time 5-15-03		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03					
Relinquished By/Removed From REF 3A 3728		Date/Time 5/16/03 1100		Received By/Stored In SJGALE		Date/Time 5/16/03 1100							
Relinquished By/Removed From SJGALE M/Sch		Date/Time 5/16/03 1100		Received By/Stored In FED EX		Date/Time							
Relinquished By/Removed From DOVER		Date/Time 5-17-03 1155		Received By/Stored In DOVER		Date/Time 5/17/03 1155							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
LABORATORY SECTION		Received By		Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time					

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-102		Page 1 of 1	
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area				SAF No. B03-015		Air Quality <input type="checkbox"/>			
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex					
Shipped To <u>TM/RECRA</u>		Offsite Property No. A030 252				Bill of Lading/Air Bill No. SBE007C					
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation	None	Cool 4C	Cool 4C	Cool 4C	4°C		
				Type of Container	aG	aG	aG	aG	ag		
				No. of Container(s)	1	1	1	1	1		
				Volume	60mL	250mL	120mL	60mL	60mL		
SAMPLE ANALYSIS				See item (I) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH total 418.1			
Sample No.	Matrix *	Sample Date	Sample Time								
J00NN7 8-10	SOIL										
J00NN8 5-14-03	SOIL										
J00NN9	SOIL	5-17-03	1300	X	X	X		X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From Doug		Date/Time 5-15-03/1430		Received By/Stored In R.F. 3A		Date/Time 5-15-03/1430		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03			
Relinquished By/Removed From REF 3A		Date/Time 51603 1100		Received By/Stored In SJGAL		Date/Time 51603 1100					
Relinquished By/Removed From 310AL		Date/Time 51603 1100		Received By/Stored In FED EX		Date/Time					
Relinquished By/Removed From Ref 3A		Date/Time 51703 1155		Received By/Stored In Ref 3A		Date/Time 51703 1155					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
LABORATORY SECTION		Received By		Title				Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time			

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hartford

Purchase Order/Project:

DATE: 5.17.03

AF# / SOW# / Release #: B03-015

Laboratory SDG #:

0305L432

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

- | | | | | |
|--|---|-----------------------------|---|--|
| 1. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 2. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 3. Airbill # recorded? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 5. Sample containers are intact? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 7. All samples on coc received? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 8. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 10. Shipment meets LVL Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 11. Where applicable, bar code labels are affixed to coc? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 12. coc signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 13. coc will be faxed or emailed to client? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 14. Project Manager/Client contacted concerning discrepancies? (name/date) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |

Cooler # / temp (°C) and Comments:

ERC 99055 / 0.8°

ERC 96039 / 0.3°

Laboratory Sample Custodian:

Laboratory Project Manager:

[Signature]

SAMPLE EXTRACTION RECORD

Sheet no.: 1

23

Extract. Date: 05/23/03

Extraction Batch No: 03LE0624

Analyst: MF

Method: SONC

Test: 0625

Cleanup Date:

Analyst:

Client: TNUHANFORD B03-015 H2222

LIMS Report Date: 05/27/03

Solvent: DCM/ACETONE

Adsorbent:

Sample No:	Client Name Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0305L432-	TNUHANFORD B03-015 H2222										
001 H	J00NL0	7	30.0	1.0		1.0		0.5	N	100.00	16.7
002 H	J00NK7	7	30.0	1.0		2.0		0.5	N	89.34	37.3
002 HS	J00NK7	7	30.0	1.0	1.0	4.0		0.5	N	89.34	74.6
002 HT	J00NK7	7	30.0	1.0	1.0	2.0		0.5	N	89.34	37.3
003 H	J00NK8	7	30.0	1.0		2.0		0.5	N	88.74	37.6
007 H	J00NK9	7	30.0	1.0		1.0		0.5	N	94.63	17.6
0305L434-	TNUHANFORD B03-024 H2216										
001 H	J00P13	7	30.0	1.0		1.0		0.5	N	99.91	16.7
002 H	J00NT5	7	30.0	1.0		1.0		0.5	N	98.96	16.8
003 H	J00NT6	7	30.0	1.0		1.0		0.5	N	98.33	16.9
004 H	J00NT7	7	30.0	1.0		1.0		0.5	N	98.71	16.9
004 HS	J00NT7	7	30.0	1.0	1.0	1.0		0.5	N	98.71	16.9
004 HT	J00NT7	7	30.0	1.0	1.0	1.0		0.5	N	98.71	16.9
005 H	J00NT8	7	30.0	1.0		1.0		0.5	N	98.46	16.9
006 H	J00NT9	7	30.0	1.0		1.0		0.5	N	99.14	16.8
0305L449-	TNUHANFORD B03-017 H2225										
001 H	J00NL4	7	10.0	1.0		1.0		0.5	N	99.25	50.4
0305L450-	TNUHANFORD B03-015 H2224										
001 H	J00NP0	7	30.0	1.0		1.0		0.5	N	99.98	16.7
002 H	J00NN7	7	15.0	1.0		2.0		0.5	N	95.85	69.6
003 H	J00NN8	7	15.0	1.0		1.0		0.5	N	95.60	34.9
004 H	J00NN9	7	30.0	1.0		1.0		0.5	N	87.88	19.0
004 HS	J00NN9	7	30.0	1.0	1.0	1.0		0.5	N	87.88	19.0

Comments:

Surrogate: 500 UL ESU BNA 89914005 @100-150 UG/ML

Spike: 500 UL EMS BNA 89912203 @100-150 UG/ML

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
<i>Cancelled R1 Rec 5/25/03</i>					

SAMPLE EXTRACTION RECORD

Sheet no.: 2

Extract. Date: 05/23/03

Extraction Batch No: 03LE0624

Analyst: MF

Method: SONC

Test: 0625

Cleanup Date:

Analyst:

Client: TNUHANFORD B03-015 H2222

LIMS Report Date: 05/27/03

Solvent: DCM/ACETONE

Adsorbent:

Sample No:	Client Name Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0305L450-	TNUHANFORD B03-015 H2224										
004 HT	J00NN9	7	30.0	1.0	1.0	1.0		0.5	N	87.88	19.0
03LE0624-MB1 H	SBLKUB	7	30.0	1.0		1.0		0.5	N	100.00	16.7
03LE0624-MB1 HS	SBLKUB	7	30.0	1.0	1.0	1.0		0.5	N	100.00	16.7

Comments:

Surrogate: 500 UL ESU BNA 89914005 @100-150 UG/ML

Spike: 500 UL EMS BNA 89912203 @100-150 UG/ML

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
Canceled RI	05/27/03				



Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NK7	002	S	03LE0597	05/13/03	05/19/03	05/24/03
J00NK7	002 MS	S	03LE0597	05/13/03	05/19/03	05/24/03
J00NK7	002 MSD	S	03LE0597	05/13/03	05/19/03	05/24/03
J00NK8	003	S	03LE0597	05/13/03	05/19/03	05/24/03
J00NK9	007	S	03LE0597	05/15/03	05/19/03	05/24/03

LAB QC:

PBLKUJ	MB1	S	03LE0597	N/A	05/19/03	05/23/03
PBLKUJ	MB1 BS	S	03LE0597	N/A	05/19/03	05/23/03

gfs/ra/s



Analytical Report

Client: TNU-HANFORD B03-015
LVL #: 0305L432
SDG/SAF #: H2222/B03-015

W.O. #: 11343-606-001-9999-00
Date Received: 05-17-03

PESTICIDE

The set of samples consisted of three (3) soil samples collected on 05-13,15-03.

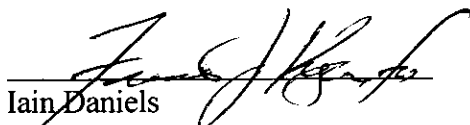
The samples and their associated QC samples were extracted on 05-19-03 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 05-23,24-03. The extraction procedure was based on method 3540 and the extracts were analyzed based on method 8081A.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. All required holding times for extraction and analysis have been met.
3. All samples and their associated QC samples received Florisil and Sulfur cleanups.
4. The method blank was below the reporting limits for all target compounds.
5. Three (3) of four (4) obtainable surrogate were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
6. Four (4) of six (6) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
7. Matrix spike recoveries were unobtainable due to the dilution required for analysis.
8. All samples required 50-fold instrument dilutions due to the high concentrations of non-target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
9. All initial calibrations associated with this data set were within acceptance criteria.
10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 16 pages.

11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.


Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/30/03
Date

pefr:\group\data\pest\tnu hanford\05L-432.pes



Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 03GC154

Initiator: Bryce Santoro
Date: 5/27/03
Client: TNU

Batch: 03051431, 432, 450
Samples: BS
Method: SV846/MCAWW/CLP/

Parameter: Chl a
Matrix: Sei
Prep Batch: 03LE0597, 0611

1. Reason for SDR

a. COC Discrepancy ☐ Tech Profile Error ☐ Client Request ☐ Sampler Error on C-O-C
☐ Transcription Error ☐ Wrong Test Code ☐ Other

b. General Discrepancy

☐ Missing Sample/Extract ☐ Container Broken ☐ Wrong Sample Pulled ☐ Label ID's Illegible
☐ Hold Time Exceeded ☐ Insufficient Sample ☐ Preservation Wrong ☐ Received Past Hold
☐ Improper Bottle Type ☐ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

① High spike and surrogate recoveries in BS (03LE0597, see attached). Samples contain hits.

② High surrogate recovery in Blank (03LE0611, extracted w/ 450-004 MS, MSD). Blank is clean.

2. Known or Probable Causes(s)

3. Discussion and Proposed Action

Other Description:

☐ Re-log
☐ Entire Batch
☐ Following Samples: _____
☐ Re-leach
☐ Re-extract
☐ Re-digest
☐ Revise EDD
☐ Change Test Code to _____
☐ Place On/Take Off Hold (circle)

4. Project Manager Instructions...signature/date: _____

☒ Concur with Proposed Action
☐ Disagree with Proposed Action; See Instruction
☐ Include in Case Narrative
☐ Client Contacted:
Date/Person _____
☐ Add
☐ Cancel

5. Final Action...signature/date: _____

Other Explanation:

☐ Verified re-[log][leach][extract][digest][analysis] (circle)
☒ Included in Case Narrative
☐ Hard Copy COC Revised
☐ Electronic COC Revised
☐ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route Distribution of Completed SDR
☐ X Initiator
☒ X Lab General Manager: M. Taylor
☒ X Project Mgr: Stone/Johnson/Haglett
☐ X Technical Mgr: Wesson/Daniels
☐ X QA (file)
☐ Data Management: Feldman
☐ Sample Prep: Beegle/Kiger

Route Distribution of Completed SDR
☐ Metals: Beegle
☐ Inorganic: Perrone
☐ GC/LC: Kiger
☐ MS: Rychlak/Layman
☐ Log-in: Melnic
☐ Admin: Soos
☐ Other: _____



GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

- U** = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J** = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I** = Interference.

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP** = Indicates Spiked Compound.



GLOSSARY OF PESTICIDE/PCB DATA

- P** = This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
- D** = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C** = This flag applies to a compound that has been confirmed by GC/MS.

Report Date: 05/27/03 15:21

Client: **TNUHANFORD B03-015 H2222** Work Order: 11343606001 Page: 1

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

98/5/13

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 05/27/03 15:21

RFW Batch Number: 03051432

Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 Page: 2

Cust ID: PBLKUJ BS

Sample RFW#: 03LE0597-MB1
Information Matrix: SOIL
D.F.: 1.00
Units: UG/KG

Surrogate: Tetrachloro-m-xylene	130	*	%
Decachlorobiphenyl	150	*	%
=====	fl	=====	fl
Alpha-BHC	1.7	U	
Beta-BHC	1.7	U	
Delta-BHC	1.7	U	
gamma-BHC (Lindane)	124	*	%
Heptachlor	128	*	%
Aldrin	118	*	%
Heptachlor epoxide	1.7	U	
Endosulfan I	1.7	U	
Dieldrin	133	*	%
4,4'-DDE	3.3	U	
Endrin	148	*	%
Endosulfan II	3.3	U	
4,4'-DDD	3.3	U	
Endosulfan sulfate	3.3	U	
4,4'-DDT	135	*	%
Methoxychlor	17	U	
Endrin ketone	3.3	U	
Endrin aldehyde	3.3	U	
alpha-Chlordane	1.7	U	
gamma-Chlordane	1.7	U	
Toxaphene	170	U	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Handwritten signature

0305 L432

Custody Transfer Record/Lab Work Request Page 1 of 1

Page 1 of 1

**FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS**

A B- C D E F

Client <u>TNU Hemlock</u> <u>B03-015</u>						Refrigerator # <u>2</u>															
Est. Final Proj. Sampling Date _____						#/Type Container		Liquid													
Project # <u>11343-606. 001-9999-00</u>								Solid	<u>1ag</u>	<u>1ag</u>	<u>1</u>	<u>1ag</u>	<u>1ag</u>	<u>1ag</u>	<u>1ag</u>	<u>1ag</u>					
Project Contact/Phone # _____						Volume		Liquid													
Lionville Laboratory Project Manager <u>Orlotta Johnson</u>								Solid	<u>120</u>	<u>250</u>	<u>1</u>	<u>250</u>	<u>60</u>	<u>120</u>	<u>120</u>	<u>60</u>					
QC <u>SPC</u> Del <u>STD</u> TAT <u>7 days</u>						Preservatives			<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>						
Date Rec'd <u>5-17-03</u> Date Due <u>5-24-03</u>						ANALYSES REQUESTED →		ORGANIC					INORG		<u>PB</u>	<u>Sulfide</u>	<u>TPH</u>				
								VOA	BNA	Pest/PCB	Herb	Metal <u>(1)</u>	<u>(2)</u>								
MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish						Matrix OC Chosen (V) MS MSD						Lionville Laboratory Use Only ↓									
												Matrix	Date Collected	Time Collected	O625 H	O605 H OPCD	OHRGY	ORPB	MRCATO	TCATO	ISFD
001	J00NLO			S	5-13-03	0900	X					X									
002	J00NK7				↓	0920	X	X	X			X	X		X						
003	J00NK8				↓		X	X	X			X	X		X						
004	J00NPO				5-14-03	0830	X					X									
005	J00NN7				↓	0900	X			X		X									
006	J00NN8				↓		X			X		X									
007	J00NK9				5-15-03	1220	X	X				X	X		X	X					
008	J00NN9				↓	1300	X	X				X				X					

Special Instructions:

SAE # B03-015

Run Matrix QC (Do Not Use - 004)

DATE/REVISIONS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Lionville Laboratory Use Only

Samples were: ☒ 1) Shipped or
Hand Delivered _____
Airbill # _____

☒ 2) Ambient or Chilled _____

☒ 3) Received in Good
Condition or N _____

☒ 4) Samples
Property Preserved _____ or N _____

☒ 5) Received Within
Holding Times _____ or N _____

Tamper Resistant Seal was:

1) Present on Outer Package ☒ Y or N

2) Unbroken on Outer Package ☒ Y or N

3) Present on Sample ☒ Y or N

4) Unbroken on Sample ☒ Y or N

COC Record Present Upon Sample Rec't ☒ Y or N

Cooler Temp. 0.3 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Lee E.	Smith	5-17-63	1155	COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between
Samples Labels and
COC Record? Y or **N**
NOTES:

790292049770/0.8 - 79225014 4333

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST							
Collector Fahlberg		Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH			
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-139		SAF No. B03-015		Price Code 8B Air Quality <input type="checkbox"/>			
Ice Chest No. ERC 96039		Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX			
Shipped To TM/RECRA		Offsite Property No. A030231		Bill of Lading/Air Bill No. see OSPL					
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage <div style="text-align: center; font-size: 1.2em;">COOL 4°C</div>				Preservation	None	Cool 4C	Cool 4C		
				Type of Container	aG	aG	aG		
				No. of Container(s)	1	1	1		
				Volume	60mL	120mL	60mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions.	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)			
				<div style="transform: rotate(-90deg); font-size: 1.5em; font-weight: bold;">126 5.13.03</div>					
Sample No.	Matrix *	Sample Date	Sample Time						
J00NLO	SOIL	5.13.03	0900	X	X				
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS		Matrix * S=Soil SE=Sediment SO=Solid St=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue Wl=Wipe L=Liquid V=Vegetation X=Other			
Relinquished By/Removed From <i>R. Fahlberg</i>		Date/Time <i>1430</i>		Received By/Stored In <i>3A 3728</i>				Date/Time <i>5.13.03</i>	
Relinquished By/Removed From <i>REF 3A 3728</i>		Date/Time <i>51603 1100</i>		Received By/Stored In <i>SJOALC/ML</i>				Date/Time <i>51603 1100</i>	
Relinquished By/Removed From <i>SJOALC/ML</i>		Date/Time <i>51603 1100</i>		Received By/Stored In <i>FED EX</i>				Date/Time	
Relinquished By/Removed From <i>Fed Ex</i>		Date/Time <i>5.17.03 1155</i>		Received By/Stored In <i>[Signature]</i>				Date/Time <i>5.17.03 1155</i>	
Relinquished By/Removed From		Date/Time		Received By/Stored In				Date/Time	
LABORATORY SECTION				Received By		Title			
FINAL SAMPLE DISPOSITION				Disposal Method		Date/Time			
				Disposed By		Date/Time			

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-98							
Collector Fahlberg		Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B	Data Turnaround 7 Days						
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>									
Ice Chest No. ERC 96 039		Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX									
Shipped To TM/RECRA		Offsite Property No. A030231				Bill of Lading/Air Bill No. SEE OSC									
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage Cool 4°C					Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
					Type of Container	aG	aG	aG	aG	aG	aG				
					No. of Container(s)	1	1	1	1	1	1				
					Volume	60mL	240mL	120mL	60mL	120mL	120mL				
SAMPLE ANALYSIS					See item (1) in Special Instructions	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Sulfides - 9030	Total Cyanide - 9010					
Sample No.	Matrix *	Sample Date	Sample Time												
J00NK7	SOIL	5-13-03	0920	X	X	X		X	X						
J00NK8	SOIL	5-13-03	0920	X	X	X		X	X						
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # SA on 5/16/03				S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other			
R. Fahlberg		5.13.03		3A 3728		5.13.03									
REF 3A 3728		51603 1100		SIGALE		51603 1100									
SIGALE		51603 1100		FED EX											
5.17.03		1155		5.17.03		1155									
5.17.03		1155		5.17.03		1155									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
LABORATORY SECTION		Received By				Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time					

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-103		
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B	Data Turnaround 7 Days
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>			
Ice Chest No. <u>ERC 99 055</u>		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex			
Shipped To <u>TM/RECRA</u>		Offsite Property No. <u>A030232</u>		Bill of Lading/Air Bill No. <u>SEE OSCPC</u>					
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation	None	Cool 4C	Cool 4C		
				Type of Container	aG	aG	aG		
				No. of Container(s)	1	1	1		
				Volume	60mL	120mL	60mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions.	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)			
Sample No.	Matrix *	Sample Date	Sample Time						
J00NP0	SOIL	5-14-03	0830	X	X	X			
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *	
Relinquished By/Removed From <u>Doug Bowers</u> Date/Time <u>5-14-03/1130</u>		Received By/Stored In <u>Ref 3A</u> Date/Time <u>5-14-03/1130</u>		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) <u>Do not use for QA/QC.</u> Personnel not available to relinquish samples from the 3728 Ref # <u>3A</u> on <u>5/16/03</u>				S=Soil SE=Sediment SO=Solid SI=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From <u>Ref 3A</u> Date/Time <u>5/6/03 1100</u>		Received By/Stored In <u>SWALEY/SL</u> Date/Time <u>5/6/03 1100</u>							
Relinquished By/Removed From <u>SWALEY/SL</u> Date/Time <u>5/6/03 1100</u>		Received By/Stored In <u>FED EX</u> Date/Time							
Relinquished By/Removed From <u>Ref 3A</u> Date/Time <u>5-17-03 1155</u>		Received By/Stored In <u>Ref 3A</u> Date/Time <u>5-17-03 1155</u>							
Relinquished By/Removed From		Received By/Stored In							
Relinquished By/Removed From		Received By/Stored In							
LABORATORY SECTION	Received By	Title				Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By				Date/Time			

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-102		Page 1 of 1																																												
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B																																												
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>		Data Turnaround 7 Days																																												
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex																																														
Shipped To TMA/RECRA		Offsite Property No. A030232				Bill of Lading/Air Bill No. SEE OPR																																														
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage					Preservation	None	Cool 4C	Cool 4C	Cool 4C	4°C																																										
					Type of Container	aG	aG	aG	aG	aG																																										
					No. of Container(s)	1	1	1	1	1																																										
					Volume	60mL	250mL	120mL	60mL	60mL																																										
SAMPLE ANALYSIS					See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - 808151 870 5-17-03	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH 4.01 4.8.1																																											
Sample No.	Matrix *	Sample Date	Sample Time																																																	
✓ JO0NN7	SOIL	5-14-03	0900	X	X	X																																														
✓ JO0NN8	SOIL	5-14-03	0900	Y	X	X																																														
✓ JO0NN9	SOIL																																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">CHAIN OF POSSESSION</th> <th colspan="2">Sign/Print Names</th> <th colspan="4">SPECIAL INSTRUCTIONS</th> <th colspan="2">Matrix *</th> </tr> <tr> <td>Relinquished By/Removed From</td> <td>Date/Time</td> <td>Received By/Stored In</td> <td>Date/Time</td> <td colspan="4" rowspan="5"> (1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03 </td> <td colspan="2" rowspan="5"> S=Soil SE=Sediment SO=Solid SI=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other </td> </tr> <tr> <td>Relinquished By/Removed From</td> <td>Date/Time</td> <td>Received By/Stored In</td> <td>Date/Time</td> </tr> <tr> <td>Relinquished By/Removed From</td> <td>Date/Time</td> <td>Received By/Stored In</td> <td>Date/Time</td> </tr> <tr> <td>Relinquished By/Removed From</td> <td>Date/Time</td> <td>Received By/Stored In</td> <td>Date/Time</td> </tr> <tr> <td>Relinquished By/Removed From</td> <td>Date/Time</td> <td>Received By/Stored In</td> <td>Date/Time</td> </tr> </table>															CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS				Matrix *		Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03				S=Soil SE=Sediment SO=Solid SI=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other		Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
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Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time																																																	
LABORATORY SECTION	Received By	Title				Date/Time																																														
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By				Date/Time																																														

Bechtel Hanford Inc.				CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST													
Collector Fahlberg				Company Contact M Stankovich				Telephone No. 531-7620				Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil				Sampling Location 600-139				SAF No. B03-015				Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 96 039				Field Logbook No. EL1577				COA C17HXU671C				Method of Shipment Fed EX					
Shipped To <u>TMARECRA</u>				Offsite Property No. A030231				Bill of Lading/Air Bill No. SEE O3PC									
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage COOL 4°C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
				Type of Container		aG	aG	aG	aG	aG	aG	aG					
				No. of Container(s)		1	1	1	1	1	1						
				Volume		60mL	240mL <i>RINSING</i>	120mL	60mL	60mL	120mL	120mL					
SAMPLE ANALYSIS				See item (1) in Special Instructions.		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8160A (TCL)	TPH (Total) - 418.1	Sulfides - 9030	Total Cyanide - 9010						
Sample No.		Matrix *	Sample Date	Sample Time													
J00NK9		SOIL	5-15-03	1200	X	X	X		X	X	X						
CHAIN OF POSSESSION					Sign/Print Names					SPECIAL INSTRUCTIONS					Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03									
R. Fahlberg		5-15-03		3A 3728		5-15-03											
REF 3A 3728		5/16/03 1100		S. GALE		5/16/03 1100											
S. GALE		5/16/03 1100		FED EX													
S. GALE		5/17/03 1155		D. D. D.		5/17/03 1155											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
LABORATORY SECTION		Received By		Title		Date/Time											
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time											

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-102		Page 1 of 1		
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>		7 Days			
Ice Chest No. <u>ERC 99 055</u>		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex					
Shipped To TM/RECRA		Offsite Property No. <u>A030 232</u>				Bill of Lading/Air Bill No. <u>SEE ODP L</u>					
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage			Preservation	None	Cool 4C	Cool 4C	Cool 4C	4°C			
			Type of Container	aG	aG	aG	aG	26			
			No. of Container(s)	1	1	1	1	1			
			Volume	60mL	250mL	120mL	60mL	60mL			
SAMPLE ANALYSIS				See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	T PH total 418.1			
Sample No.	Matrix *	Sample Date	Sample Time								
J00NN7	SOIL										
J00NN8	SOIL										
J00NN9	SOIL	5-17-03	1300	X	X	X		X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From <u>Doug Bowers</u>		Date/Time <u>5-17-03/1470</u>		Received By/Stored In <u>R. F. JA 3728</u>		Date/Time <u>5-17-03/1430</u>		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # <u>3A</u> on <u>5/16/03</u>			
Relinquished By/Removed From <u>REF 3A 3728</u>		Date/Time <u>51603 1100</u>		Received By/Stored In <u>SJGALON</u>		Date/Time <u>51603 1100</u>					
Relinquished By/Removed From <u>SJGALON</u>		Date/Time <u>51603 1100</u>		Received By/Stored In <u>FED EX</u>		Date/Time					
Relinquished By/Removed From <u>Ref 3A</u>		Date/Time <u>51603 1155</u>		Received By/Stored In <u>Ref 3A</u>		Date/Time <u>51603 1155</u>					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
LABORATORY SECTION		Received By		Title				Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time			

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 5-17-03

AF# / SOW# / Release #: B03-015

Laboratory SDG #:

0305L432

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

- | | | | | |
|--|---|-----------------------------|---|--|
| 1. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 2. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 3. Airbill # recorded? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 5. Sample containers are intact? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 7. All samples on coc received? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 8. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 10. Shipment meets LVL1 Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 11. Where applicable, bar code labels are affixed to coc? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 12. coc signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 13. coc will be faxed or emailed to client? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 14. Project Manager/Client contacted concerning discrepancies? (name/date) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |

Cooler # / temp (°C) and Comments:

ERC 99055 / 0.8°

ERC 96039 / 0.3°

Laboratory Sample Custodian:

Laboratory Project Manager:

[Signature]

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222



DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NK7	002	S	03LE0597	05/13/03	05/19/03	05/23/03
J00NK8	003	S	03LE0597	05/13/03	05/19/03	05/23/03
J00NK8	003 MS	S	03LE0597	05/13/03	05/19/03	05/23/03
J00NK8	003 MSD	S	03LE0597	05/13/03	05/19/03	05/23/03
J00NK9	007	S	03LE0597	05/15/03	05/19/03	05/24/03

LAB QC:

PBLKUJ	MB1	S	03LE0597	N/A	05/19/03	05/23/03
PBLKUJ	MB1 BS	S	03LE0597	N/A	05/19/03	05/23/03

7/5/29/03



Analytical Report

Client: TNU-HANFORD B03-015
LVL #: 0305L432
SDG/SAF #: H2222/B03-015

W.O. #: 11343-606-001-9999-00

Date Received: 05-17-03

PCB

The set of samples consisted of three (3) soil samples collected on 05-13,15-03.


The samples and their associated QC samples were extracted on 05-19-03 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 05-23,24-03. The extraction procedure was based on method 3540 and the extracts were analyzed based on method 8082.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

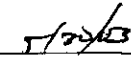
1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. All required holding times for extraction and analysis have been met.
3. All samples and their associated QC samples received Florisil, Sulfuric Acid, and Sulfur cleanups.
4. The method blank was below the reporting limits for all target compounds.
5. Three (3) of four (4) obtainable surrogate were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
6. All blank spike recoveries were within acceptance criteria.
7. Matrix spike recoveries were unobtainable due to the dilution required for analysis.
8. All samples required 50-fold instrument dilutions due to the high concentrations of non-target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
9. All initial calibrations associated with this data set were within acceptance criteria.
10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 15 pages.

11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.


Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

pefr:\group\data\pest\tnu hanford\05L-432.pcb


Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 060151

Initiator: Wayne Suter
Date: 5/27/03
Client: TNU

Batch: 03050461, 437, 449, 450
Samples: BS
Method: SV846/MCAWWW/CLP/

Parameter: SPC 4
Matrix: Soil
Prep Batch: 03LEP597

1. Reason for SDR

- a. COC Discrepancy ☐ Tech Profile Error ☐ Client Request ☐ Sampler Error on C-O-C
☐ Transcription Error ☐ Wrong Test Code ☐ Other _____
- b. General Discrepancy
☐ Missing Sample/Extract ☐ Container Broken ☐ Wrong Sample Pulled ☐ Label ID's Illegible
☐ Hold Time Exceeded ☐ Insufficient Sample ☐ Preservation Wrong ☐ Received Past Hold
☐ Improper Bottle Type ☐ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

① High surrogate recovery in BS. All spike recoveries good.

2. Known or Probable Causes(s)

3. Discussion and Proposed Action

Other Description: Narrative

- ☐ Re-log
☐ Entire Batch
☐ Following Samples: _____
☐ Re-leach
☐ Re-extract
☐ Re-digest
☐ Revise EDD
☐ Change Test Code to _____
☐ Place On/Take Off Hold (circle)

[Signature] 5/29/03

4. Project Manager Instructions...signature/date:

- ☒ Concur with Proposed Action
☐ Disagree with Proposed Action; See Instruction
☐ Include in Case Narrative
☐ Client Contacted:
Date/Person _____
☐ Add
☐ Cancel

5. Final Action...signature/date:

Other Explanation:

- ☐ Verified re-[log][leach][extract][digest][analysis] (circle)
☒ Included in Case Narrative
☐ Hard Copy COC Revised
☐ Electronic COC Revised
☐ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route Distribution of Completed SDR
☒ X Initiator
☒ X Lab General Manager: M. Taylor
☒ X Project Mgr: Stone/Johnson/Haslett
☒ X Technical Mgr: Wesson/Daniels
☒ X QA (file)
☐ Data Management: Feldman
☐ Sample Prep: Beegle/Kiger

Route Distribution of Completed SDR
☐ Metals: Beegle
☐ Inorganic: Perrone
☐ GC/LC: Kiger
☐ MS: Rychlak/Layman
☐ Log-in: Melnic
☐ Admin: Soos
☐ Other: _____



GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

- U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I = Interference.

ABBREVIATIONS

- BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD = Indicates blank spike duplicate.
- MS = Indicates matrix spike.
- MSD = Indicates matrix spike duplicate.
- DL = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA = Not Applicable.
- DF = Dilution Factor.
- NR = Not Required.
- SP = Indicates Spiked Compound.



GLOSSARY OF PESTICIDE/PCB DATA

- P = This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
- D = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C = This flag applies to a compound that has been confirmed by GC/MS.

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 05/27/03 13:52

RFW Batch Number: 0305L432

Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 Page: 1

	Cust ID:	J00NK7	J00NK8	J00NK8	J00NK8	J00NK9	PBLKUJ
Sample	RFW#:	002	003	003 MS	003 MSD	007	03LE0597-MB1
Information	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	50.0	50.0	50.0	50.0	50.0	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Decachlorobiphenyl	D %	D %	D %	D %	D %	130 * %
	Tetrachloro-m-xylene	D %	D %	D %	D %	D %	105 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====							
Aroclor-1016		840 U	850 U	D %	D %	790 U	15 U
Aroclor-1221		840 U	850 U	850 U	850 U	790 U	15 U
Aroclor-1232		840 U	850 U	850 U	850 U	790 U	15 U
Aroclor-1242		840 U	850 U	850 U	850 U	790 U	15 U
Aroclor-1248		840 U	850 U	850 U	850 U	790 U	15 U
Aroclor-1254		840 U	850 U	850 U	850 U	790 U	15 U
Aroclor-1260		260 J	380 J	D %	D %	790 U	15 U

Cust ID: PBLKUJ BS

Sample RFW#: 03LE0597-MB1
 Information Matrix: SOIL
 D.F.: 1.00
 Units: UG/KG

Surrogate:	Decachlorobiphenyl	155 * %
	Tetrachloro-m-xylene	120 * %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====		
Aroclor-1016		115 %
Aroclor-1221		15 U
Aroclor-1232		15 U
Aroclor-1242		15 U
Aroclor-1248		15 U
Aroclor-1254		15 U
Aroclor-1260		122 %

Handwritten signature/initials

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

0305L432

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client <u>TNU Hemlock</u> <u>B03-015</u>				Refrigerator # <u>2</u>		A		B		C		D		E		F		G			
Est. Final Proj. Sampling Date				#/Type Container	Liquid																
Project # <u>11343-606.001-9999-00</u>					Solid																
Project Contact/Phone #				Volume	Liquid																
Lionville Laboratory Project Manager <u>Delette Johnson</u>					Solid																
QC <u>SPCE</u> Del <u>STD</u> TAT <u>7 days</u>				Preservatives																	
Date Rec'd <u>5-17-03</u> Date Due <u>5-24-03</u>				ANALYSES REQUESTED →		ORGANIC						INORG									
						VOA	BNA	Pest/PCB	Herb	PCB	Metal (Li)	ISD	TPH								
				Lionville Laboratory Use Only																	
MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓)	Matrix	Date Collected	Time Collected	0625H	0605H	0600	0600	0600	0600	0600	0600	0600	0600	0600	0600			
			MS	MSD																	
	001	J00NLO			S	5-13-03	0900	X							X						
	002	J00NK7				↓	0920	X	X	X					X	X	X				
	003	J00NK8				↓	↓	X	X	X					X	X	X				
	004	J00NPO				5-14-03	0830	X						X							
	005	J00NN7				↓	0900	X			X			X							
	006	J00NN8				↓	↓	X			X			X							
	007	J00NK9				5-15-03	1220	X	X					X	X	X		X			
	008	J00NN9				↓	1300	X	X					X				X			
Special Instructions: <u>SAF # B03-015</u>				DATE/REVISIONS:				Lionville Laboratory Use Only													
Run Matrix QC (Do Not Use - 004)				1. _____				Samples were: <input checked="" type="checkbox"/> Shipped <input type="checkbox"/> or Hand Delivered _____													
				2. _____				Airbill # _____													
				3. _____				2) Ambient or Chilled <input checked="" type="checkbox"/> or N													
				4. _____				3) Received in Good Condition <input checked="" type="checkbox"/> or N													
				5. _____				4) Samples Properly Preserved <input checked="" type="checkbox"/> or N													
				6. _____				5) Received Within Holding Times <input checked="" type="checkbox"/> or N													
Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time	Discrepancies Between Samples Labels and COC Record? Y or N <input checked="" type="checkbox"/>													
<u>Delette</u>	<u>Johnson</u>	<u>5-17-03</u>	<u>1155</u>	<u>COMPOSITE WASTE</u>	<u>ORIGINAL REWRITTEN</u>			NOTES: 790292049170/0.8 - 792250144333													

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-70		
Collector Fahlberg		Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B	Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>				
Ice Chest No. ERC 96 039		Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX				
Shipped To TMA/RECRA		Offsite Property No. A030231				Bill of Lading/Air Bill No. SEE OSCC				
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage Cool 4°C				Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C
				Type of Container	aG	aG	aG	aG	aG	aG
				No. of Container(s)	1	1	1	1	1	1
				Volume	60mL	240mL	120mL	60mL	120mL	120mL
				SAMPLE ANALYSIS		See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Sulfides - 9030
Sample No.	Matrix *	Sample Date	Sample Time							
J00NK7	SOIL	5-13-03	0920	X	X	X	X	X		
J00NK8	SOIL	5-13-03	0920	X	X	X	X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS		
Relinquished By/Removed From R. F. 300 RFE41603 5-13-03		Date/Time 1430		Received By/Stored In 3A 3728 5-13-03		Date/Time 1430		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03		
Relinquished By/Removed From BEE 3A 3728 51603 1100		Date/Time		Received By/Stored In SIGAL 51603 1100		Date/Time				
Relinquished By/Removed From SIGAL 51603 1100		Date/Time		Received By/Stored In FED EX		Date/Time				
Relinquished By/Removed From 5-17-03 1155		Date/Time		Received By/Stored In 5-17-03 1155		Date/Time				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
LABORATORY SECTION		Received By		Title		Date/Time		Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other		
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time				

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-103	
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Price Code 8B Air Quality <input type="checkbox"/>	
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex	
Shipped To <u>TM/RECRA</u>		Offsite Property No. A030232		Bill of Lading/Air Bill No. SEE OSP.C			
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation	None	Cool 4C	Cool 4C
				Type of Container	aG	aG	aG
				No. of Container(s)	1	1	1
				Volume	60mL	120mL	60mL
SAMPLE ANALYSIS				See item (1) in Special Instructions.	Semi-VOA - #270A (TCL)	VOA - #260A (TCL)	
Sample No.	Matrix *	Sample Date	Sample Time				
J00NP0	SOIL	5-14-03	0830	X	X	X	
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From Doug Bowers Date/Time 5-14-03/1130		Received By/Stored In Ref 3A 3728 Date/Time 5-14-03/1130		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Do not use for QA/QC. Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03			
Relinquished By/Removed From Ref 3A 3728 Date/Time 5/6/03 1100		Received By/Stored In SSOME/DR Date/Time 5/6/03 1100					
Relinquished By/Removed From SSGAL/DR Date/Time 5/6/03 1100		Received By/Stored In FED EX Date/Time					
Relinquished By/Removed From DR/EX Date/Time 5-17-03 1155		Received By/Stored In DR/EX Date/Time 5-17-03 1155					
Relinquished By/Removed From		Received By/Stored In					
Relinquished By/Removed From		Received By/Stored In					
LABORATORY SECTION				Matrix *			
Received By		Title		Date/Time			
FINAL SAMPLE DISPOSITION				Disposal Method			
Disposal Method				Disposed By			
Disposal Method				Date/Time			

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-102		Page 1 of 1	
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex					
Shipped To <u>TMA/RECRA</u>		Offsite Property No. A030232				Bill of Lading/Air Bill No. SEE OPR					
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation	None	Cool 4C	Cool 4C	Cool 4C	40C		
				Type of Container	aG	aG	aG	aG	aG		
				No. of Container(s)	1	1	1	1	1		
				Volume	60mL	250mL	120mL	60mL	60mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions.	PCBs - 8082; Pesticide - 8081; Chloro-Herbicides - EPA 8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (+ + + + +) 418.1			
Sample No.	Matrix *	Sample Date	Sample Time								
J00NN7	SOIL	5-14-03	0900	X	X	X					
J00NN8	SOIL	5-14-03	0900	Y	Y	X					
J00NN9	SOIL										
1000 5-14-03											
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From Doug Bowers		Date/Time 5-14-03/1130		Received By/Stored In REF 3A 3728		Date/Time 5-14-03/1130		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03			
Relinquished By/Removed From REF 3A 3728		Date/Time 51603 1100		Received By/Stored In SJGALE		Date/Time 51603 1100					
Relinquished By/Removed From WHALE		Date/Time 51603 1100		Received By/Stored In FED EX		Date/Time					
Relinquished By/Removed From WHALE		Date/Time 51703 1155		Received By/Stored In WHALE		Date/Time 51703 1155					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		Matrix * S=Soil SE=Soil/Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
LABORATORY SECTION		Received By				Title				Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time	

Bechtel Hanford Inc.				CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST								B03-015-99					
Collector Fahlberg				Company Contact M Stankovich				Telephone No. 531-7620				Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil				Sampling Location 600-139				SAF No. B03-015				Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 96 039				Field Logbook No. EL1577				COA C17HXU671C				Method of Shipment Fed EX					
Shipped To TMA/RECRA				Offsite Property No. A030231				Bill of Lading/Air Bill No. SEE O3PL									
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage cool 4°C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
				Type of Container		aG	aG	aG	aG	aG	aG	aG	aG				
				No. of Container(s)		1	1	1	1	1	1	1					
				Volume		60mL	240mL	120mL	60mL	60mL	120mL	120mL					
SAMPLE ANALYSIS				See item (1) in Special Instructions.		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1	Sulfides - 9030	Total Cyanide - 9010						
Sample No.	Matrix *	Sample Date	Sample Time														
J00NK9	SOIL	5-15-03	1200	X	X	X			X	X	X						
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS								Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03									
R. F. Fahlberg		5-15-03		3A		5-15-03											
REF 3A		3728 51603 1100		S. GALE		51603 1100											
S. GALE		51603 1100		FED EX													
D. J. Egan		5-17-03 1155		J. J. Dorian		5-17-03 1155											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
LABORATORY SECTION		Received By				Title				Date/Time							
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time							

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-102		Page 1 of 1	
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex					
Shipped To TM/RECRA		Offsite Property No. A030 232				Bill of Lading/Air Bill No. 588 007 C					
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage		Preservation		None	Cool 4C	Cool 4C	Cool 4C	4°C			
		Type of Container		aG	aG	aG	aG	ab			
		No. of Container(s)		1	1	1	1	1			
		Volume		60mL	250mL	120mL	60mL	60mL			
SAMPLE ANALYSIS				See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH total 418.1			
Sample No.	Matrix *	Sample Date	Sample Time								
J00NN7	SOIL										
J00NN8	SOIL										
J00NN9	SOIL	5-17-03	1300	X	X	X	X				
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other			
Relinquished By/Removed From <i>Doug Bowers</i> Date/Time <i>5-15-03/1430</i>		Received By/Stored In <i>Ref 3A</i> Date/Time <i>5-15-03/1430</i>		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)							
Relinquished By/Removed From <i>Ref 3A</i> Date/Time <i>51603 1100</i>		Received By/Stored In <i>Subalt</i> Date/Time <i>51603 1100</i>									
Relinquished By/Removed From <i>Subalt</i> Date/Time <i>51603 1100</i>		Received By/Stored In <i>Fed Ex</i> Date/Time									
Relinquished By/Removed From <i>Ref 3A</i> Date/Time <i>51603 1155</i>		Received By/Stored In <i>Ref 3A</i> Date/Time <i>51603 1155</i>									
Relinquished By/Removed From		Received By/Stored In									
Relinquished By/Removed From		Received By/Stored In		Personnel not available to relinquish samples from the 3728 Ref # <i>3A</i> on <i>5/16/03</i>							
LABORATORY SECTION	Received By	Title						Date/Time			
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By						Date/Time			

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hamford

Purchase Order/Project:

DATE: 5.17.03

SAF# / SOW# / Release #: 803-015

Laboratory SDG #:

0305L432

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

- | | | | | |
|--|---|-----------------------------|---|--|
| 1. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 2. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 3. Airbill # recorded? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 5. Sample containers are intact? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 7. All samples on coc received? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 8. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 10. Shipment meets LVL1 Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 11. Where applicable, bar code labels are affixed to coc? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 12. coc signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 13. coc will be faxed or emailed to client? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 14. Project Manager/Client contacted concerning discrepancies? (name/date) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |

Cooler # / temp (°C) and Comments:

ERC 99055 / 0.8°

ERC 96039 / 0.3°

Laboratory Sample Custodian:

Laboratory Project Manager:

[Signature]

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222



DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
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J00NL0

SILVER, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03
MERCURY, TOTAL	001	S	03C0122	05/13/03	05/21/03	05/22/03
LEAD, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03

J00NK7

SILVER, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
SILVER, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
SILVER, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
MERCURY, TOTAL	002	S	03C0122	05/13/03	05/21/03	05/22/03
MERCURY, TOTAL	002 REP	S	03C0122	05/13/03	05/21/03	05/22/03
MERCURY, TOTAL	002 MS	S	03C0122	05/13/03	05/21/03	05/22/03
LEAD, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
LEAD, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
LEAD, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NK8						
SILVER, TOTAL	003	S	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	003	S	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	003	S	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	003	S	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	003	S	03L0269	05/13/03	05/19/03	05/22/03
MERCURY, TOTAL	003	S	03C0122	05/13/03	05/21/03	05/22/03
LEAD, TOTAL	003	S	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	003	S	03L0269	05/13/03	05/19/03	05/22/03

J00NK9						
SILVER, TOTAL	007	S	03L0269	05/15/03	05/19/03	05/22/03
ARSENIC, TOTAL	007	S	03L0269	05/15/03	05/19/03	05/22/03
BARIUM, TOTAL	007	S	03L0269	05/15/03	05/19/03	05/22/03
CADMIUM, TOTAL	007	S	03L0269	05/15/03	05/19/03	05/22/03
CHROMIUM, TOTAL	007	S	03L0269	05/15/03	05/19/03	05/22/03
MERCURY, TOTAL	007	S	03C0122	05/15/03	05/21/03	05/22/03
LEAD, TOTAL	007	S	03L0269	05/15/03	05/19/03	05/22/03
SELENIUM, TOTAL	007	S	03L0269	05/15/03	05/19/03	05/22/03

LAB QC:

SILVER LABORATORY	LC1 BS	S	03L0269	N/A	05/19/03	05/22/03
SILVER, TOTAL	MB1	S	03L0269	N/A	05/19/03	05/22/03
ARSENIC LABORATORY	LC1 BS	S	03L0269	N/A	05/19/03	05/22/03
ARSENIC, TOTAL	MB1	S	03L0269	N/A	05/19/03	05/22/03
BARIUM LABORATORY	LC1 BS	S	03L0269	N/A	05/19/03	05/22/03
BARIUM, TOTAL	MB1	S	03L0269	N/A	05/19/03	05/22/03
CADMIUM LABORATORY	LC1 BS	S	03L0269	N/A	05/19/03	05/22/03
CADMIUM, TOTAL	MB1	S	03L0269	N/A	05/19/03	05/22/03
CHROMIUM LABORATORY	LC1 BS	S	03L0269	N/A	05/19/03	05/22/03
CHROMIUM, TOTAL	MB1	S	03L0269	N/A	05/19/03	05/22/03
MERCURY LABORATORY	LC1 BS	S	03C0122	N/A	05/21/03	05/22/03
MERCURY, TOTAL	MB1	S	03C0122	N/A	05/21/03	05/22/03
LEAD LABORATORY	LC1 BS	S	03L0269	N/A	05/19/03	05/22/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LEAD, TOTAL	MB1	S	03L0269	N/A	05/19/03	05/22/03
SELENIUM LABORATORY	LC1 BS	S	03L0269	N/A	05/19/03	05/22/03
SELENIUM, TOTAL	MB1	S	03L0269	N/A	05/19/03	05/22/03



Analytical Report

Client: TNU-HANFORD B03-015
LVL#: 0305L432
SDG/SAF#: H2222/B03-015

W.O.#: 11343-606-001-9999-00
Date Received: 05-17-03

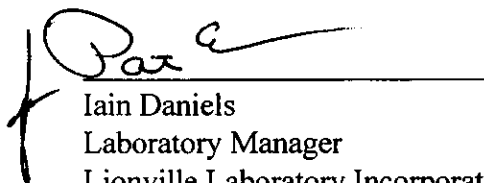
METALS CASE NARRATIVE

1. This narrative covers the analyses of 4 soil samples.
2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.
3. All analyses were performed within the required holding times.
4. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits.
6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).
7. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
8. All ICP Interference Check Standards were within control limits.
9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
10. The matrix spike (MS) recoveries for 4 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.
11. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A serial dilution is performed for Mercury. A PDS was prepared at meaningful concentration level for the following analytes:

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 20 pages.

<u>Sample ID</u>	<u>Element</u>	<u>PDS</u>	<u>PDS</u>
		<u>Concentration (ppb)</u>	<u>% Recovery</u>
J00NK7	Cadmium	500	97.4
	Chromium	500	103.5
	Lead	1000	83.4

12. The duplicate analysis for 1 analyte was outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.
13. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.
14. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.


 Iain Daniels
 Laboratory Manager
 Lionville Laboratory Incorporated
 gmb/m05-432

05-28-03
 Date

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 03056432

Leaching Procedure: 1310 1311 1312 Other:

CLP Metals Digestion and Analysis Methods: ILM03.0 ILM04.0

Metals Digestion Methods: 3005A 3010A 3015 3020A 3050B 3051 200.7 SS17
Other:

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Antimony	<u>6010B</u> <u>7041</u> ^s	<u>200.7</u> <u>204.2</u>			<u>99</u>
Arsenic	<u>6010B</u> <u>7060A</u> ^s	<u>200.7</u> <u>206.2</u>	<u>3113B</u>		<u>99</u>
Barium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Beryllium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Bismuth	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Boron	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Cadmium	<u>6010B</u> <u>7131A</u> ^s	<u>200.7</u> <u>213.2</u>			<u>99</u>
Calcium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Chromium	<u>6010B</u> <u>7191</u> ^s	<u>200.7</u> <u>218.2</u>			<u>SS17</u>
Cobalt	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Copper	<u>6010B</u> <u>7211</u> ^s	<u>200.7</u> <u>220.2</u>			<u>99</u>
Iron	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Lead	<u>6010B</u> <u>7421</u> ^s	<u>200.7</u> <u>239.2</u>	<u>3113B</u>		<u>99</u>
Lithium	<u>6010B</u> <u>7430</u> ⁴	<u>200.7</u>		<u>1620</u>	<u>99</u>
Magnesium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Manganese	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Mercury	<u>7470A</u> ³ <u>7471A</u> ³	<u>245.1</u> ² <u>245.5</u> ²			<u>99</u>
Molybdenum	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Nickel	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Potassium	<u>6010B</u> <u>7610</u> ⁴	<u>200.7</u> <u>258.1</u> ⁴			<u>99</u>
Rare Earths	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Selenium	<u>6010B</u> <u>7740</u> ^s	<u>200.7</u> <u>270.2</u>	<u>3113B</u>		<u>99</u>
Silicon	<u>6010B</u> ¹	<u>200.7</u>		<u>1620</u>	<u>99</u>
Silica	<u>6010B</u>	<u>200.7</u>		<u>1620</u>	<u>99</u>
Silver	<u>6010B</u> <u>7761</u> ^s	<u>200.7</u> <u>272.2</u>			<u>99</u>
Sodium	<u>6010B</u> <u>7770</u> ⁴	<u>200.7</u> <u>273.1</u> ⁴			<u>99</u>
Strontium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Thallium	<u>6010B</u> <u>7841</u> ^s	<u>200.7</u> <u>279.2</u> <u>200.9</u>			<u>99</u>
Tin	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Titanium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Uranium	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Vanadium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Zinc	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Zirconium	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>

Other: _____

Method: _____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- * = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

- MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Flame AA.
4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0305L432

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING	DILUTION
					LIMIT	FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	J00NL0	Silver, Total	0.11 u	MG/KG	0.11	1.0
		Arsenic, Total	0.31 u	MG/KG	0.31	1.0
		Barium, Total	1.0	MG/KG	0.02	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Chromium, Total	0.18	MG/KG	0.09	1.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Lead, Total	0.66	MG/KG	0.22	1.0
		Selenium, Total	0.40 u	MG/KG	0.40	1.0
-002	J00NK7	Silver, Total	0.68	MG/KG	0.13	1.0
		Arsenic, Total	7.9	MG/KG	0.36	1.0
		Barium, Total	1410	MG/KG	0.02	1.0
		Cadmium, Total	22.6	MG/KG	0.04	1.0
		Chromium, Total	165	MG/KG	0.11	1.0
		Mercury, Total	0.22	MG/KG	0.02	1.0
		Lead, Total	5950	MG/KG	0.25	1.0
		Selenium, Total	1.1	MG/KG	0.46	1.0
-003	J00NK8	Silver, Total	0.43	MG/KG	0.13	1.0
		Arsenic, Total	7.8	MG/KG	0.35	1.0
		Barium, Total	1290	MG/KG	0.02	1.0
		Cadmium, Total	17.8	MG/KG	0.04	1.0
		Chromium, Total	96.0	MG/KG	0.11	1.0
		Mercury, Total	0.16	MG/KG	0.02	1.0
		Lead, Total	4580	MG/KG	0.25	1.0
		Selenium, Total	0.89	MG/KG	0.45	1.0
-007	J00NK9	Silver, Total	0.11 u	MG/KG	0.11	1.0
		Arsenic, Total	2.4	MG/KG	0.31	1.0
		Barium, Total	72.0	MG/KG	0.02	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Chromium, Total	12.0	MG/KG	0.09	1.0
		Mercury, Total	0.02	MG/KG	0.02	1.0
		Lead, Total	4.4	MG/KG	0.22	1.0
		Selenium, Total	0.40 u	MG/KG	0.40	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
BLANK1	03L0269-MB1	Silver, Total	0.12 u	MG/KG	0.12	1.0
		Arsenic, Total	0.33 u	MG/KG	0.33	1.0
		Barium, Total	0.04	MG/KG	0.02	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Chromium, Total	0.14	MG/KG	0.10	1.0
		Lead, Total	0.23 u	MG/KG	0.23	1.0
		Selenium, Total	0.42 u	MG/KG	0.42	1.0
BLANK1	03C0122-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
=====	=====	=====	=====	=====	=====	=====	=====
-002	J00NK7	Silver, Total	5.7	0.68	5.4	92.9	1.0
		Arsenic, Total	200	7.9	215	89.0	1.0
		Barium, Total	1640	1410	215	105.2*	1.0
		Cadmium, Total	24.8	22.6	5.4	40.7*	1.0
		Chromium, Total	156	165	21.5	-40. *	1.0
		Mercury, Total	0.34	0.22	0.16	72.1	1.0
		Lead, Total	6370	5950	53.8	776.6*	1.0
		Selenium, Total	186	1.1	215	85.7	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0305L432

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
=====	=====	=====	=====	=====	=====	=====
-002REP	J00NK7	Silver, Total	0.68	0.63	8.0	1.0
		Arsenic, Total	7.9	6.7	16.4	1.0
		Barium, Total	1410	1510	6.7	1.0
		Cadmium, Total	22.6	22.5	0.44	1.0
		Chromium, Total	165	105	44.2	1.0
		Mercury, Total	0.22	0.18	18.5	1.0
		Lead, Total	5950	5610	5.9	1.0
		Selenium, Total	1.1	1.3	16.7	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0305L432

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
=====	=====	=====	=====	=====	=====	=====
LCS1	03L0269-LC1	Silver, LCS	49.0	50.0	MG/KG	98.0
		Arsenic, LCS	925	1000	MG/KG	92.5
		Barium, LCS	494	500	MG/KG	98.8
		Cadmium, LCS	24.3	25.0	MG/KG	97.2
		Chromium, LCS	50.5	50.0	MG/KG	101.0
		Lead, LCS	243	250	MG/KG	97.3
		Selenium, LCS	869	1000	MG/KG	86.9
LCS1	03C0122-LC1	Mercury, LCS	6.8	6.2	MG/KG	109.8



0305L432

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client				Refrigerator #		A		B		C		D		E		F		G	
Est. Final Proj. Sampling Date				#/Type Container		Liquid													
Project #						Solid		lag		lag		lag		lag		lag		lag	
Project Contact/Phone #				Volume		Liquid													
Lionville Laboratory Project Manager						Solid		120		250		250		60		120		120	
QC Spec Del STD TAT				Preservatives				-		-		-		-		-		-	
Date Rec'd				Date Due		ANALYSES REQUESTED		ORGANIC		INORG									
						VOA		BNA		Pest/PCB		Herb		PCB		Metal		TPH	
MATRIX CODES:				Lab ID		Client ID/Description		Matrix OC Chosen (S)		Matrix		Date Collected		Time Collected					
								MS MSD											
S - Soil				001		J00NLO				S		5-13-03		0900					
SE - Sediment				002		J00NK7								0920					
SO - Solid				003		J00NK8													
SL - Sludge				004		J00NPO													
W - Water				005		J00NN7													
O - Oil				006		J00NN8													
A - Air				007		J00NK9													
DS - Drum Solids				008		J00NN9													
DL - Drum Liquids																			
L - EP/TCLP Leachate																			
WI - Wipe																			
X - Other																			
F - Fish																			

Special Instructions:

SAF # B03-015

Run Matrix QC (Do Not Use - 004)

DATE/REVISIONS:

5-20-03 1. Revis - 004 - 005 - 006 - 008 to 0305L450

2. Add 006X to - 007

3.

4.

5.

6.

Lionville Laboratory Use Only

Samples were ✓
 1) Shipped or
 Hand Delivered
 Airbill #

2) Ambient or Chilled
 3) Received in Good
 Condition or N
 4) Samples
 Properly Preserved

5) Received Within
 Holding Times
 or N

Tamper Resistant Seal was:
 1) Present on Outer
 Package (Y) or N
 2) Unbroken on Outer
 Package (Y) or N
 3) Present on Sample
 (Y) or N
 4) Unbroken on
 Sample (Y) or N
 COC Record Present
 Upon Sample Rec't
 (Y) or N
 Cooler
 Temp. 0.3 °C

Relinquished by	Received by	Date	Time
W. Lee	D. Smith	5-17-03	1155

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL		
	REWRITTEN		

Discrepancies Between
 Samples Labels and
 COC Record? Y or N
 NOTES:

790292049170/0.8 - 792250144333

Bechtel Hanford Inc.			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST							
Collector Fahlberg			Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B	Data Turnaround 7 Days
Project Designation Remaining Sites Confirmation Sampling-Soil			Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>			
Ice Chest No. ERC 96039			Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX			
Shipped To TM/RECRA			Offsite Property No. A030231				Bill of Lading/Air Bill No. SOB OSPC			
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage <div style="text-align: center; font-size: 1.2em;">Cool 4°C</div>			Preservation		None	Cool 4C	Cool 4C			
			Type of Container		aG	aG	aG			
			No. of Container(s)		1	1	1			
			Volume		60mL	120mL	60mL			
SAMPLE ANALYSIS			See item (1) in Special Instructions.		Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)				
Sample No.		Matrix *	Sample Date	Sample Time						
J00NLO		SOIL	5.13.03	0900	X	X				
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS					Matrix * S=Soil SB=Soilment SD=Solid SI=Sludge W = Water O=Oil A=Air DS=Drym Solids DL=Drum Liquids T=Thase WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From <i>R. Fahlberg</i>		Date/Time <i>5.13.03</i>		Received By/Stored In <i>JA 3728</i>		Date/Time <i>5.13.03</i>		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # <i>3A</i> on <i>5.16.03</i>		
Relinquished By/Removed From <i>REF 3A 3728</i>		Date/Time <i>51603 1100</i>		Received By/Stored In <i>SJOALC</i>		Date/Time <i>51603 1100</i>				
Relinquished By/Removed From <i>SJOALC</i>		Date/Time <i>51603 1100</i>		Received By/Stored In <i>FED EX</i>		Date/Time				
Relinquished By/Removed From <i>FED EX</i>		Date/Time <i>5.17.03 1155</i>		Received By/Stored In <i>JA 3728</i>		Date/Time <i>5.17.03 1155</i>				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
LABORATORY SECTION		Received By		Title		Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time		

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-98		Page 1 of 1				
Collector Fahlberg		Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days			
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>							
Ice Chest No. ERC 96 039		Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX							
Shipped To TM/RECRA		Offsite Property No. A030231				Bill of Lading/Air Bill No. SEE OSC							
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage COOL 4°C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
				Type of Container		aG	aG	aG	aG	aG	aG		
				No. of Container(s)		1	1	1	1	1	1		
				Volume		60mL	240mL	120mL	60mL	120mL	120mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions.		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Sulfides - 9030	Total Cyanide - 9010			
Sample No.		Matrix *		Sample Date		Sample Time							
J00NK7		SOIL		5-13-03		0920		X	X	X	X		
J00NK8		SOIL		5-13-03		0920		X	X	X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref# <u>SA</u> on <u>5/16/03</u>					
K. Fahlberg		5-13-03 1430		3A 3728		5-13-03 1430							
REF 3A 3728		5/6/03 1100		SIGALE		5/6/03 1100							
SIGALE		5/6/03 1100		FED EX									
FED EX		5-17-03 1155		J. J. Miller		5-17-03 1155							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
LABORATORY SECTION		Received By		Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time					

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-103	
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Price Code 8B Data Turnaround 7 Days	
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex	
Shipped To TMA/RECRA		Offsite Property No. A030232		Bill of Lading/Air Bill No. SEE OSC			
POSSIBLE SAMPLE HAZARDS/REMARKS		Preservation		None	Cool 4C	Cool 4C	
Special Handling and/or Storage		Type of Container		aG	aG	aG	
		No. of Container(s)		1	1	1	
		Volume		60mL	120mL	60mL	
SAMPLE ANALYSIS				See item (1) in Special Instructions.	Semi-VOA - #270A (TCL)	VOA - #260A (TCL)	
Sample No.	Matrix *	Sample Date	Sample Time				
J00NP0	SOIL	5-14-03	0830	X	X	X	
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From Doug Bowers		Date/Time 5-14-03/1130		Received By/Stored In Ref 3A 3728		Date/Time 5-14-03/1130	
Relinquished By/Removed From Ref 3A 3728		Date/Time 51603 1100		Received By/Stored In SSGAL/EL		Date/Time 51603 1100	
Relinquished By/Removed From SSGAL/EL		Date/Time 51603 1100		Received By/Stored In FED EX		Date/Time	
Relinquished By/Removed From Steve E		Date/Time 5-17-03 1155		Received By/Stored In JY/Don		Date/Time 5-17-03 1155	
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
LABORATORY SECTION		Received By		Title		Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time	

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-102		Page 1 of 1						
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B						
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>		Data Turnaround 7 Days						
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex								
Shipped To <u>TMA/RECRA</u>		Offsite Property No. A030232		Bill of Lading/Air Bill No. SEE APC										
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage					Preservation	None	Cool 4C	Cool 4C	Cool 4C	40C				
					Type of Container	aG	aG	aG	aG	aG				
					No. of Container(s)	1	1	1	1	1				
					Volume	60mL	250mL	120mL	60mL	60mL				
SAMPLE ANALYSIS					See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA 8151 820 5-11-03	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (+/- 0.1) 418.1					
Sample No.	Matrix *	Sample Date	Sample Time											
J00NN7	SOIL	5-14-03	0900	X	X	X								
J00NN8	SOIL	5-14-03	0900	Y	Y	X								
J00NN9	SOIL													
CHAIN OF POSSESSION														
Relinquished By/Removed From Doug Bowers Date/Time 5-14-03/1130				Received By/Stored In REF 3A Date/Time 5-14-03/1130				SPECIAL INSTRUCTIONS (1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03						
Relinquished By/Removed From REF 3A Date/Time 51603 1100				Received By/Stored In SJGALE Date/Time 51602 1100										
Relinquished By/Removed From WHALE Date/Time 51603 1100				Received By/Stored In FED EX Date/Time										
Relinquished By/Removed From Ex Date/Time 5-17-03 1155				Received By/Stored In Ex Date/Time 5-17-03 1155										
Relinquished By/Removed From				Received By/Stored In										
Relinquished By/Removed From				Received By/Stored In										
LABORATORY SECTION				Received By				Title						
FINAL SAMPLE DISPOSITION				Disposal Method				Disposed By						
								Date/Time						

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

Bechtel Hanford Inc.				CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-99		Page 1 of 1	
Collector Fahlberg				Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil				Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 96 039				Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX					
Shipped To <u>TMA/RECRA</u>				Offsite Property No. A030231				Bill of Lading/Air Bill No. see OSLC					
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage cool 4°C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
				Type of Container		aG	aG	aG	aG	aG	aG	aG	
				No. of Container(s)		1	1	1	1	1	1		
				Volume		60mL	240mL <i>RINSEW 3</i>	120mL	60mL	60mL	120mL	120mL	
SAMPLE ANALYSIS				See item (1) in Special Instructions.		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1	Sulfides - 9030	Total Cyanide - 9010		
Sample No.		Matrix *	Sample Date	Sample Time									
J00NK9		SOIL	5-15-03	1200	X	X	X		X	X	X		
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS					Matrix * S=Soil SE=Softwood SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other			
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # <u>3A</u> on <u>5/16/03</u>						
R. Fahlberg		5-15-03	3A		5-15-03								
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time								
REF 3A		5/16/03 1100	S. GALE		5/16/03 1100								
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time								
S. GALE		5/16/03 1100	FED EX										
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time								
DOVER		5-17-03 1155	J. J. J. J.		5-17-03 1155								
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time								
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time								
LABORATORY SECTION		Received By		Title		Date/Time							
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time							

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-102		Page 1 of 1		
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B Data Turnaround 7 Days		
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>				
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex				
Shipped To TM/RECRA		Offsite Property No. A030 232				Bill of Lading/Air Bill No. SEE 007C				
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage			Preservation	None	Cool 4C	Cool 4C	Cool 4C	4°C		
			Type of Container	aG	aG	aG	aG	ab		
			No. of Container(s)	1	1	1	1	1		
			Volume	60mL	250mL	120mL	60mL	60mL		
SAMPLE ANALYSIS			See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPAR151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH total 418.1			
Sample No.	Matrix *	Sample Date	Sample Time							
J00NN7	SOIL									
J00NN8	SOIL									
J00NN9	SOIL	5-17-03	1300	X	X	X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS		
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03		
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time				
LABORATORY SECTION		Received By		Title		Date/Time		Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WT=Wipe L=Liquid V=Vegetation X=Other		
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time				

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

IENT: TNU Hamford
 chase Order/Project:

DATE: 5.17.03

F# / SOW# / Release #: B03-015

Laboratory SDG #:

0305L432

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

- | | | | | |
|--|---|-----------------------------|---|--|
| 1. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 2. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 3. Airbill # recorded? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 5. Sample containers are intact? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 7. All samples on coc received? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 8. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 10. Shipment meets LVL1 Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 11. Where applicable, bar code labels are affixed to coc? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 12. coc signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 13. coc will be faxed or emailed to client? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 14. Project Manager/Client contacted concerning discrepancies? (name/date) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |

Cooler # / temp (°C) and Comments:

ERC 99055 / 0.8°

ERC 96039 / 0.3°

Laboratory Sample Custodian:

[Signature]

Laboratory Project Manager:

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222



DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
---------------------	-------	-----	--------	------------	-----------	----------

J00NL0

% SOLIDS	001	S	03L*S068	05/13/03	05/20/03	05/21/03
% SOLIDS	001 REP	S	03L*S068	05/13/03	05/20/03	05/21/03

J00NK7

% SOLIDS	002	S	03L*S068	05/13/03	05/20/03	05/21/03
TOTAL CYANIDE	002	S	03LC047	05/13/03	05/22/03	05/22/03
SULFIDE	002	S	03LSD022	05/13/03	05/23/03	05/23/03

J00NK8

% SOLIDS	003	S	03L*S068	05/13/03	05/20/03	05/21/03
TOTAL CYANIDE	003	S	03LC047	05/13/03	05/22/03	05/22/03
SULFIDE	003	S	03LSD022	05/13/03	05/23/03	05/23/03

J00NK9

% SOLIDS	007	S	03L*S068	05/15/03	05/20/03	05/21/03
TOTAL CYANIDE	007	S	03LC047	05/15/03	05/22/03	05/22/03
TOTAL CYANIDE	007 REP	S	03LC047	05/15/03	05/22/03	05/22/03
TOTAL CYANIDE	007 MS	S	03LC047	05/15/03	05/22/03	05/22/03
PETROLEUM HYDROCARBO	007	S	03LHC025	05/15/03	05/19/03	05/20/03
PETROLEUM HYDROCARBO	007 MS	S	03LHC025	05/15/03	05/19/03	05/20/03
PETROLEUM HYDROCARBO	007 MSD	S	03LHC025	05/15/03	05/19/03	05/20/03
SULFIDE	007	S	03LSD022	05/15/03	05/23/03	05/23/03
SULFIDE	007 REP	S	03LSD022	05/15/03	05/23/03	05/23/03
SULFIDE	007 MS	S	03LSD022	05/15/03	05/23/03	05/23/03

LAB QC:

TOTAL CYANIDE	LCS L	S	03LC047	N/A	05/22/03	05/22/03
TOTAL CYANIDE	LCS L	S	03LC047	N/A	05/22/03	05/22/03
TOTAL CYANIDE	MB1	S	03LC047	N/A	05/22/03	05/22/03
SULFIDE	MB1	S	03LSD022	N/A	05/23/03	05/23/03
SULFIDE	MB1 BS	S	03LSD022	N/A	05/23/03	05/23/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
PETROLEUM HYDROCARBO	LC1 BS	S	03LHC025	N/A	05/19/03	05/20/03
PETROLEUM HYDROCARBO	MB1	S	03LHC025	N/A	05/19/03	05/20/03



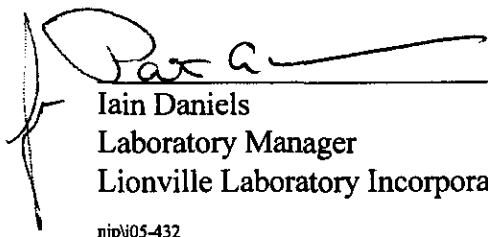
Analytical Report

Client: TNU-HANFORD B03-015 H2222
LVL#: 0305L432

W.O.#: 11343-606-001-9999-00
Date Received: 05-17-03

INORGANIC NARRATIVE

1. This narrative covers the analyses of 4 soil samples.
2. The samples were prepared and analyzed in accordance with the methods checked on the attached glossary.
3. Sample holding times as required by the method and/or contract were met with the exception of Sulfide.
4. The results presented in this report are derived from samples that met LvLI's sample acceptance policy.
5. The method blanks were within the method criteria.
6. The Laboratory Control Samples (LCS) were within the laboratory control limits.
7. The matrix spike recoveries for Total Cyanide, Petroleum Hydrocarbons (PHC) and Sulfide were within the 75-125% control limits. The matrix spike duplicate for PHC was within the 20% Relative Percent Difference (RPD) control limit.
8. The replicate analyses for Percent Solids and Total Cyanide were within the 20% RPD control limit, however replicate analysis for Sulfide was outside the control limit that may be attributed to sample inhomogeneity.
9. Results for solid samples are reported on a dry weight basis.
10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.


Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated
njpl05-432

05-29-03
Date

The results presented in this report relate to the analytical testing and conditions of the samples upon receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 19 pages.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
% Ash	— D2216-80		
% Moisture	— D2216-80		— ILMO4.0 (e)
% Solids	— <input checked="" type="checkbox"/> D2216-80		— ILMO4.0 (e)
% Volatile Solids	— D2216-80		
ASTM Extraction in Water	— D3987-81/85		
BTU	— D240-87		
CEC		— 9081	— c
Chromium VI		— 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		— 1110(mod) — 9045C	
Cyanide, Total		<input checked="" type="checkbox"/> 9010B/9014	— ILMO4.0 (e)
Cyanide, Reactive		— Section 7.3/9014	
Halides, Extractable Organic		— 9020B	— EPA 600/4/84-008
Halides, Total		— 9020B	— EPA 600/4/84-008
EP Toxicity		— 1310A	
Flash Point		— 1010	
Ignitability		— 1010	
Oil & Grease		— 9071A	
Carbon, Total Organic		— 9060	— Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	— D240-87(mod)	— 5050	
Petroleum Hydrocarbons, Total Recoverable		<input checked="" type="checkbox"/> 9071	<input checked="" type="checkbox"/> EPA 418.1 (mod.)
pH, Soil		— 9045C	
Sulfide, Reactive		— Section 7.3/9030B	
Sulfide		<input checked="" type="checkbox"/> 9030B(mod)	
Specific Gravity	— D1429-76C/	— D5057-90	
Sulfur, Total		— 9056	
Synthetic Preparation Leach		— 1312	
Paint Filter		— 9095A	
Other:	Method:		
Other:	Method		

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LC = Laboratory Control Sample.

NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.
2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).
3. Test Methods for Evaluating Solid Waste (USEPA SW-846).
 - a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).
 - b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).
 - c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).
 - d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).
 - e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.
 - f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0305L432

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
*****	*****	*****	*****	*****	*****	*****
-001	J00NL0	% Solids	100	%	0.01	1.0
-002	J00NK7	% Solids	89.3	%	0.01	1.0
		Cyanide, Total	0.38 u	MG/KG	0.38	1.0
		Sulfide	47.8	MG/KG	30.3	1.0
-003	J00NK8	% Solids	88.7	%	0.01	1.0
		Cyanide, Total	0.50 u	MG/KG	0.50	1.0
		Sulfide	62.3	MG/KG	45.2	1.0
-007	J00NK9	% Solids	94.6	%	0.01	1.0
		Cyanide, Total	0.41 u	MG/KG	0.41	1.0
		Petroleum Hydrocarbons	7.9	MG/KG	3.5	1.0
		Sulfide	35.8	MG/KG	26.0	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/27/03

CLIENT: TNUHANFORD B03-015 H2222
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0305L432

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
*****	*****	*****	*****	*****	*****	*****
BLANK1	03LC047-MB1	Cyanide, Total	0.50 u	MG/KG	0.50	1.0
BLANK10	03LSD022-MB1	Sulfide	40.0 u	MG/KG	40.0	1.0
BLANK10	03LHC025-MB1	Petroleum Hydrocarbons	3.3 u	MG/KG	3.3	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SAMPLE	SPIKED RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-----	-----	-----	-----	-----	-----	-----	-----
-007	J00NK9	Cyanide, Total	5.33	0.41u	5.31	100.4	1.0
		Petroleum Hydrocarbons	137	7.9	148	87.4	1.0
		Petroleum Hydrocarbons	142	7.9	148	90.8	1.0
		Sulfide	286	35.8	327	76.4	1.0
BLANK10	03LSD022-MB1	Sulfide	412	40.0 u	453	90.9	1.0
LCS10	03LHC025-LC1	Petroleum Hydrocarbons	128	3.3 u	140	91.2	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0305L432

SAMPLE	SITE ID	ANALYTE	SPIKE#1 SPIKE#2		%DIFF
			%RECOV	%RECOV	
-007	J00NK9	Petroleum Hydrocarbons	87.4	90.8	3.8

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-001REP	J00NLO	% Solids	100	100	0.020	1.0
-007REP	J00NK9	Cyanide, Total	0.41u	0.51u	NC	1.0
		Sulfide	35.8	28.3	23.4	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0305L432

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
-----	-----	-----	-----	-----	-----	-----
LCSS1	03LC047-LCS1	Cyanide, Total LCS	1.87	2.0	MG/KG	93.7
LCSS2	03LC047-LCS2	Cyanide, Total LCS	10.1	10.0	MG/KG	101.4

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

790292049170/0.8% - 79225014 4333

Relinquished by	Received by	Date	Time
COMPOSITE WASTE		ORIGINAL	REWRITTEN

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					
Collector Fahlberg		Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-139		SAF No. B03-015		Price Code 8B Air Quality <input type="checkbox"/>	
Ice Chest No. ERC 96039		Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX	
Shipped To TM/RECRA		Offsite Property No. A030231		Bill of Lading/Air Bill No. see aspl			
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage cool 4°C				Preservation		None	
				Type of Container		aG	
				No. of Container(s)		1	
				Volume		60mL	
SAMPLE ANALYSIS				See item (1) in Special Instructions.		Semi-VOA - 8270A (TCL)	
						VOA - 8260A (TCL)	
Sample No.		Matrix *		Sample Date		Sample Time	
J00NLO		SOIL		5.13.03		0900	
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
R. Fahlberg		5.13.03		J. A. 3728		5.13.03	
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
REF 3A 3728		51603 1100		SJOALC/KBL		51603 1100	
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
SJOALC/KBL		51603 1100		FED EX			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
Fed Ex		5.17.03 1155		J. A. 3728		5.17.03 1155	
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time	
LABORATORY SECTION				Received By			
				Title			
FINAL SAMPLE DISPOSITION				Disposal Method			
				Disposed By			
				Date/Time			
				Date/Time			

Bechtel Hanford Inc.				CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-98		Page 1 of 1			
Collector Fahlberg				Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days			
Project Designation Remaining Sites Confirmation Sampling-Soil				Sampling Location 600-139		SAF No. B03-015		Air Quality <input type="checkbox"/>							
Ice Chest No. ERC 96 039				Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX							
Shipped To TMA/RECRA				Offsite Property No. A030231				Bill of Lading/Air Bill No. SEE OSPC							
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage Cool 4°C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
				Type of Container		aG	aG	aG	aG	aG	aG				
				No. of Container(s)		1	1	1	1	1	1				
				Volume		60mL	240mL	120mL	60mL	120mL	120mL				
SAMPLE ANALYSIS				See item (1) in Special Instructions.		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Sulfides - 9030	Total Cyanide - 9010					
Sample No.				Matrix *		Sample Date		Sample Time							
J00NK7				SOIL		5-13-03		0920		X	X	X	X	X	
J00NK8				SOIL		5-13-03		0920		X	X	X	X	X	
CHAIN OF POSSESSION						SPECIAL INSTRUCTIONS						Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other			
Relinquished By/Removed From R. Fahlberg				Date/Time 5-13-03		Received By/Stored In 3A 3728				Date/Time 5-13-03				(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03	
Relinquished By/Removed From REF 3A 3728				Date/Time 5/6/03 1100		Received By/Stored In S/GALE/John				Date/Time 5/6/03 1100					
Relinquished By/Removed From S/GALE/John				Date/Time 5/6/03 1100		Received By/Stored In FED EX				Date/Time					
Relinquished By/Removed From John				Date/Time 5-17-03 1155		Received By/Stored In John				Date/Time 5-17-03 1155					
Relinquished By/Removed From				Date/Time		Received By/Stored In				Date/Time					
Relinquished By/Removed From				Date/Time		Received By/Stored In				Date/Time					
Relinquished By/Removed From				Date/Time		Received By/Stored In				Date/Time					
LABORATORY SECTION		Received By		Title						Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By						Date/Time					

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B03-015-103		Page 1 of 1											
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B											
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>		Data Turnaround 7 Days											
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex													
Shipped To TM/RECRA		Offsite Property No. A03023.2		Bill of Lading/Air Bill No. SEE OSP.C															
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation	None	Cool 4C	Cool 4C												
				Type of Container	aG	aG	aG												
				No. of Container(s)	1	1	1												
				Volume	60mL	120mL	60mL												
SAMPLE ANALYSIS				See item (1) in Special Instructions	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)													
Sample No.	Matrix *	Sample Date	Sample Time																
J00NP0	SOIL	5-14-03	0830	X	X	X													
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *							
Relinquished By/Removed From Doug Bowers Date/Time 5-14-03/1130				Received By/Stored In Ref 3A 3728 Date/Time 5-14-03/1130				(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Do not use for QA/QC. Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03				S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W1=Wipe L=Liquid V=Vegetation X=Other							
Relinquished By/Removed From Ref 3A 3728 Date/Time 5/16/03 1100				Received By/Stored In SSOAL/SL Date/Time 5/16/03 1100															
Relinquished By/Removed From SSOAL/SL Date/Time 5/16/03 1100				Received By/Stored In FED EX Date/Time															
Relinquished By/Removed From Doug Bowers Date/Time 5-17-03 1155				Received By/Stored In DJ/Prich Date/Time 5-17-03 1155															
Relinquished By/Removed From				Received By/Stored In															
Relinquished By/Removed From				Received By/Stored In															
Relinquished By/Removed From				Received By/Stored In															
Relinquished By/Removed From				Received By/Stored In															
LABORATORY SECTION		Received By		Title								Date/Time							
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By								Date/Time							

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-102		Page 1 of 1		
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex					
Shipped To <u>TMA/RECRA</u>		Offsite Property No. A030232				Bill of Lading/Air Bill No. SEE APC					
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation	None	Cool 4C	Cool 4C	Cool 4C	40C		
				Type of Container	aG	aG	aG	aG	aG		
				No. of Container(s)	1	1	1	1	1		
				Volume	60mL	250mL	120mL	60mL	60mL		
SAMPLE ANALYSIS				See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (+ + 0.1) 418.1			
Sample No.	Matrix *	Sample Date	Sample Time								
J00NN7	SOIL	5-14-03	0900	X	X	X					
J00NN8	SOIL	5-14-03	0900	Y	Y	X					
J00NN9	SOIL										
1000 5-14-03											
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS			
Relinquished By/Removed From Doug Bowers		Date/Time 5-14-03/1130		Received By/Stored In REF 3A 3728		Date/Time 5-14-03/1130		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03			
Relinquished By/Removed From REF 3A 3728		Date/Time 5/16/03 1100		Received By/Stored In SJ GALE		Date/Time 5/16/03 1100					
Relinquished By/Removed From WALC		Date/Time 5/16/03 1100		Received By/Stored In FED EX		Date/Time					
Relinquished By/Removed From Doug Bowers		Date/Time 5-17-03 1155		Received By/Stored In D. Stankovich		Date/Time 5-17-03 1155					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W1=Wipe L=Liquid V=Vegetation X=Other			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time					
LABORATORY SECTION	Received By		Title		Date/Time						
FINAL SAMPLE DISPOSITION	Disposal Method		Disposed By		Date/Time						

Bechtel Hanford Inc.			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-99		Page 1 of 1						
Collector Fahlberg			Company Contact M Stankovich			Telephone No. 531-7620			Project Coordinator KESSNER, JH			Price Code 8B		Data Turnaround			
Project Designation Remaining Sites Confirmation Sampling-Soil			Sampling Location 600-139			SAF No. B03-015			Air Quality <input type="checkbox"/>			7 Days					
Ice Chest No. ERC 96 039			Field Logbook No. EL1577			COA C17HXU671C			Method of Shipment Fed EX								
Shipped To TMA (RECRA)			Offsite Property No. A030231						Bill of Lading/Air Bill No. see OSLC								
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage cool 4C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
				Type of Container		aG	aG	aG	aG	aG	aG	aG					
				No. of Container(s)		1	1	1	1	1	1						
				Volume		60mL	240mL	120mL	60mL	60mL	120mL	120mL					
SAMPLE ANALYSIS				See item (1) in Special Instructions		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151		Semi-VOA - 8270A (TCL)		VOA - 8260A (TCL)		TPH (Total) - 418.1		Sulfides - 9030		Total Cyanide - 9010	
Sample No.		Matrix *		Sample Date		Sample Time											
J00NK9		SOIL		5-15-03		1200		X	X	X		X	X	X			
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS						Matrix *			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03						S=Soil SE=Soil/Sediment SO=Solid SI=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue Wt=Wipe L=Liquid V=Vegetation X=Other			
R. F. Fahlberg		5-15-03		3A		5-15-03											
REF 3A		51603 1100		S. GALE		51603 1100											
S. GALE		51603 1100		FED EX													
S. GALE		5-17-03 1155		J. J. J. J.		5-17-03 1155											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time											
LABORATORY SECTION		Received By				Title				Date/Time							
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time							

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-102		Page 1 of 1		
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround 7 Days		
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area				SAF No. B03-015		Air Quality <input type="checkbox"/>				
Ice Chest No. <i>ERC 99 055</i>		Field Logbook No. EL-1578		COA C17HXU67IC		Method of Shipment Fed Ex		Bill of Lading/Air Bill No. <i>SBE 007L</i>				
Shipped To TM/RECRA		Offsite Property No. <i>A030 232</i>										
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage		Preservation	None	Cool 4C	Cool 4C	Cool 4C	<i>4°C</i>					
		Type of Container	aG	aG	aG	aG	<i>aG</i>					
		No. of Container(s)	1	1	1	1	<i>1</i>					
		Volume	60mL	250mL	120mL	60mL	<i>60mL</i>					
SAMPLE ANALYSIS		See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	<i>TPH total 418.1</i>						
Sample No.	Matrix *	Sample Date	Sample Time									
J00NN7 <i>& 10</i>	SOIL											
J00NN8 <i>5-14-03</i>	SOIL											
J00NN9	SOIL	<i>5-17-03</i>	<i>1300</i>	X	X	X	X					
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS						Matrix *
Relinquished By/Removed From <i>Doug Bowers</i>		Date/Time <i>5-14-03/1430</i>	Received By/Stored In <i>Raf JA</i>		Date/Time <i>5-15-03/1430</i>	(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)						S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Dry Solid DL=Dry Liquid T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From <i>REF 3A</i>		Date/Time <i>51603 1100</i>	Received By/Stored In <i>SJGALON</i>		Date/Time <i>51603 1100</i>							
Relinquished By/Removed From <i>SJGALON</i>		Date/Time <i>51603 1100</i>	Received By/Stored In <i>FED EX</i>		Date/Time							
Relinquished By/Removed From <i>[Signature]</i>		Date/Time <i>51703 1155</i>	Received By/Stored In <i>[Signature]</i>		Date/Time <i>51703 1155</i>							
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time							
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time							
LABORATORY SECTION		Received By		Title		Personnel not available to relinquish samples from the 3728 Ref # <i>3A</i> on <i>5/16/03</i>						
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time						

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hartford

Purchase Order/Project:

DATE: 5-17-03

AF# / SOW# / Release #: B03-015

Laboratory SDG #:

0305L432

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
2. Outside of coolers or shipping containers are free from damage?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
3. Airbill # recorded?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
5. Sample containers are intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
6. Custody seals on sample containers intact, signed and dated?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
7. All samples on coc received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
8. All sample label information matches coc?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
10. Shipment meets LVLJ Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
11. Where applicable, bar code labels are affixed to coc?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
12. coc signed and dated?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
13. coc will be faxed or emailed to client?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> see Comment #

Cooler # / temp (°C) and Comments:

ERC 99055 / 0.8°

ERC 96039 / 0.3°

Laboratory Sample Custodian:

D. J. Smith

Laboratory Project Manager:

Lionville Laboratory, Inc.
HBGX ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-015 H2222



DATE RECEIVED: 05/17/03

LVL LOT # :03051482

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NK7	002	S	03LE0600	05/13/03	05/21/03	05/24/03
J00NK8	003	S	03LE0600	05/13/03	05/21/03	05/24/03
J00NK8	003 MS	S	03LE0600	05/13/03	05/21/03	05/24/03
J00NK8	003 MSD	S	03LE0600	05/13/03	05/21/03	05/24/03
J00NK9	007	S	03LE0625	05/15/03	05/25/03	05/27/03

LAB QC:

PBLKUL	MB1	S	03LE0600	N/A	05/21/03	05/23/03
PBLKUL	MB1 BS	S	03LE0600	N/A	05/21/03	05/27/03
PBLKUM	MB1	S	03LE0625	N/A	05/25/03	05/27/03
PBLKUM	MB1 BS	S	03LE0625	N/A	05/25/03	05/27/03
PBLKUM	MB1 BSD	S	03LE0625	N/A	05/25/03	05/27/03

7/8/5/29/0



Analytical Report

Client: TNU HANFORD B03-015
LVL#: 0305L432
SDG/SAF#: H2222/B03-015

W.O.#: 11343-606-001-9999-00
Date Received: 05-17-03


HERBICIDE

The set of samples consisted of three (3) soil samples collected on 05-13,15-03.

The samples and their associated QC samples were extracted on 05-21,25-03 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 05-23,24,27-03. The extraction and analysis procedure was based on method 8151A.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LVL's sample acceptance policy.
2. All required holding times for extraction and analysis have been met.
3. All method blanks were below the reporting limits for all target compounds.
4. All obtainable surrogate recoveries were within acceptance criteria.
5. Five (5) of twenty-four (24) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
6. Matrix spike recoveries were unobtainable due to the dilution required for analysis.
7. All samples required 50-fold instrument dilutions due the high concentrations of non-target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
10. To the best of my knowledge, this data report is in compliance with the terms and conditions of the purchase order, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hard copy data package and in the electronic data submitted on diskette has been authorized by the cognizant laboratory manager or his/her designee to be accurate as verified by the following signature.


Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/20/03
Date

pef17somr:\group\data\herb\tnu\05L-432.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 15 pages.

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 036C15.3

Initiator: Bryce Spataro
Date: 5/22/03
Client: TUV

Batch: 03052 431, 432, 450
Samples: BS
Method: SW846MCAWW/CLP/

Parameter: CHB/GX
Matrix: Soil
Prep Batch: 03LE0606

1. Reason for SDR

a. COC Discrepancy ☐ Tech Profile Error ☐ Client Request ☐ Sampler Error on C-O-C
☐ Transcription Error ☐ Wrong Test Code ☐ Other _____

b. General Discrepancy

☐ Missing Sample/Extract ☐ Container Broken ☐ Wrong Sample Pulled ☐ Label ID's Illegible
☐ Hold Time Exceeded ☐ Insufficient Sample ☐ Preservation Wrong ☐ Received Past Hold
☐ Improper Bottle Type ☐ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

① Low Dicamba recovery in BS @ 43% (ex limit = 50%). All samples are clear of Dicamba.

2. Known or Probable Causes(s)

3. Discussion and Proposed Action

Other Description:

☐ Re-log
☐ Entire Batch
☐ Following Samples: _____
☐ Re-leach
☐ Re-extract
☐ Re-digest
☐ Revise EDD
☐ Change Test Code to _____
☐ Place On/Take Off Hold (circle)

narrate

[Signature] *5/20/03*

4. Project Manager Instructions...signature/date:

☒ Concur with Proposed Action
☐ Disagree with Proposed Action; See Instruction
☐ Include in Case Narrative
☐ Client Contacted:
Date/Person _____
☐ Add
☐ Cancel

5. Final Action...signature/date:

5/20/03

Other Explanation:

☐ Verified re-[log][leach][extract][digest][analysis] (circle)
☒ Included in Case Narrative
☐ Hard Copy COC Revised
☐ Electronic COC Revised
☐ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route Distribution of Completed SDR
☐ X Initiator
☐ X Lab General Manager: M. Taylor
☒ X Project Mgr: Stone/Johnson/Haslett
☐ X Technical Mgr: Wesson/Daniels
☐ X QA (file)
☐ Data Management: Feldman
☐ Sample Prep: Beegle/Kiger

Route Distribution of Completed SDR
☐ Metals: Beegle
☐ Inorganic: Perrone
☐ GC/LC: Kiger
☐ MS: Rychlak/Layman
☐ Log-in: Melnic
☐ Admin: Soos
☐ Other: _____

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 056C155

Initiator: Bryce Saffore
Date: 5/27/03
Client: TNU

Batch: 03052432 (w7 only)
Samples: AS ASD
Method: SW846/MCAWW/CLP/

Parameter: PH/POX
Matrix: Soil
Prep Batch: 03LE0225

1. Reason for SDR

a. COC Discrepancy ☐ Tech Profile Error ☐ Client Request ☐ Sampler Error on C-O-C
☐ Transcription Error ☐ Wrong Test Code ☐ Other

b. General Discrepancy

☐ Missing Sample/Extract ☐ Container Broken ☐ Wrong Sample Pulled ☐ Label ID's Illegible
☐ Hold Time Exceeded ☐ Insufficient Sample ☐ Preservation Wrong ☐ Received Past Hold
☐ Improper Bottle Type ☐ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

① Low spike recoveries in AS and ASD (see attached). Sample is clean.

2. Known or Probable Causes(s)

3. Discussion and Proposed Action

Other Description: nominate

☐ Re-log
☐ Entire Batch
☐ Following Samples: _____
☐ Re-leach
☐ Re-extract
☐ Re-digest
☐ Revise EDD
☐ Change Test Code to _____
☐ Place On/Take Off Hold (circle)

4. Project Manager Instructions...signature/date:

☒ Concur with Proposed Action
☐ Disagree with Proposed Action; See Instruction
☐ Include in Case Narrative
☐ Client Contacted:
Date/Person _____
☐ Add
☐ Cancel

5. Final Action...signature/date:

Other Explanation:

☒ Verified re-[log][leach][extract][digest][analysis] (circle)
☒ Included in Case Narrative
☐ Hard Copy COC Revised
☐ Electronic COC Revised
☐ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route Distribution of Completed SDR

☐ X Initiator
☐ X Lab General Manager: M. Taylor
☒ X Project Mgr: Stone/Johnson/Haslett
☐ X Technical Mgr: Wesson/Daniels
☐ X QA (file)
☐ Data Management: Feldman
☐ Sample Prep: Beegle/Kiger

Route Distribution of Completed SDR

☐ Metals: Beegle
☐ Inorganic: Perrone
☐ GC/LC: Kiger
☐ MS: Rychlak/Layman
☐ Log-in: Melnic
☐ Admin: Soos
☐ Other: _____



GLOSSARY OF HERBICIDE DATA

DATA QUALIFIERS

- U** = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J** = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I** = Interference.

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP** = Indicates Spiked Compound.



GLOSSARY OF HERBICIDE DATA

- P** = This flag is used for an Herbicide target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form 1 and flagged with a "P".
- D** = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C** = This flag applies to a compound that has been confirmed by HPLC.

Lionville Laboratory, Inc.

Herbicides, Special List

Report Date: 05/29/03 09:58

RFW Batch Number: 0305L432

Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 Page: 1

	Cust ID:	J00NK7	J00NK8	J00NK8	J00NK8	J00NK9	PBLKUL
Sample	RFW#:	002	003	003 MS	003 MSD	007	03LE0600-MB1
Information	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	50.0	50.0	50.0	50.0	50.0	1.00
	Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Surrogate:	DCAA	D %	D %	D %	D %	D %	48 %
		=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====
Dalapon		9300 U					
Dalapon		9300 U	9400 U	D %	D %	8800 U	170 U
Dicamba		3700 U	3800 U	D %	D %	3500 U	67 U
Dichloroprop		9300 U	9400 U	D %	D %	8800 U	170 U
2,4-D		1900 U	1900 U	D %	D %	1800 U	33 U
2,4,5-TP (Silvex)		930 U	940 U	D %	D %	880 U	17 U
2,4,5-T		930 U	940 U	D %	D %	880 U	17 U
2,4-DB		9300 U	9400 U	D %	D %	8800 U	170 U
Dinoseb		930 U	940 U	D %	D %	880 U	17 U

	Cust ID:	PBLKUL BS	PBLKUM	PBLKUM BS	PBLKUM BSD
Sample	RFW#:	03LE0600-MB1	03LE0625-MB1	03LE0625-MB1	03LE0625-MB1
Information	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00
	Units:	ug/kg	ug/kg	ug/kg	ug/kg
Surrogate:	DCAA	108 %	102 %	149 %	87 %
		=====fl=====	=====fl=====	=====fl=====	=====fl=====
Dalapon		78 %	170 U	34 * %	29 * %
Dicamba		43 * %	67 U	80 %	48 * %
Dichloroprop		92 %	170 U	82 %	62 %
2,4-D		76 %	33 U	69 %	51 %
2,4,5-TP (Silvex)		92 %	17 U	81 %	67 %
2,4,5-T		86 %	17 U	62 %	55 * %
2,4-DB		93 %	170 U	94 %	66 %
Dinoseb		89 %	17 U	84 %	50 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

0305L432

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client <u>TNU Herford B03-015</u>	Refrigerator # <u>2</u>	A	B	C	D	E	F	G
Est. Final Proj. Sampling Date <u>11343-606.001-9999-00</u>	#/Type Container	Liquid						
Project # <u>11343-606.001-9999-00</u>		Solid	1ag	1ag	1ag	1ag	1ag	1ag
Project Contact/Phone # <u></u>	Volume	Liquid						
Lionville Laboratory Project Manager <u>Orlette Johnson</u>		Solid	120	250	250	60	120	120
QC <u>SPC</u> Del <u>STD</u> TAT <u>7 days</u>	Preservatives		-	-	-	-	-	-
Date Rec'd <u>5-17-03</u> Date Due <u>5-24-03</u>	ANALYSES REQUESTED	ORGANIC			INORG			
		VOA	BNA	Pest/PCB	Herb	PCB	Metal	TPH

MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish	Lab ID	Client ID/Description	Matrix QC Chosen (S)		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only												
			MS	MSD				0625H	0605H OPD	0HGGY	0P.B			MAGRO	TICAT		ISFD		IPHC	
001	J00NLO			S	5-13-03	0900	X						X							
002	J00NK7			I	↓	0920	X	X	X				X	X		X				
003	J00NK8			I	↓	↓	X	X	X				X	X		X				
004	J00NPO			I	5-14-03	0830	X						X							
005	J00NN7			I	↓	0900	X				X		X							
006	J00NN8			I	↓	↓	X				X		X							
007	J00NK9			I	5-15-03	1220	X	X					X	X		X		X		
008	J00NN9			I	↓	1300	X	X					X					X		

Special Instructions:

SAF # B03-015

Run Matrix QC (Do Not Use - 004)

DATE/REVISIONS:

1.	
2.	
3.	
4.	
5.	
6.	

Lionville Laboratory Use Only

Samples were:
 1) Shipped ☒ or
 Hand Delivered ☐
 Airbill #
 2) Ambient or Chilled ☒
 3) Received in Good Condition ☒ or N
 4) Samples Properly Preserved ☒ or N
 5) Received Within Holding Times ☒ or N

Tamper Resistant Seal was:
 1) Present on Outer Package ☒ or N
 2) Unbroken on Outer Package ☒ or N
 3) Present on Sample ☒ or N
 4) Unbroken on Sample ☒ or N
 COC Record Present Upon Sample Rec'd ☒ or N
 Cooler Temp. 0.3 °C

Relinquished by	Received by	Date	Time
<u>GeoEx</u>	<u>Orlette Johnson</u>	<u>5-17-03</u>	<u>1155</u>

Relinquished by	Received by	Date	Time
<u>COMPOSITE WASTE</u>	<u>ORIGINAL REWRITTEN</u>		

Discrepancies Between Samples Labels and COC Record? Y or N ☒
 NOTES:
 7902 9204 9170 / 0.8 - 7922 5014 4333

Bechtel Hanford Inc.				CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				
Collector Fahlberg		Company Contact M Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-139		SAF No. B03-015		Price Code 8B Air Quality <input type="checkbox"/>		
Ice Chest No. ERC 96039		Field Logbook No. EL1577		COA C17HXU671C		Method of Shipment Fed EX		
Shipped To TM/RECRA		Offsite Property No. A030231		Bill of Lading/Air Bill No. SEB 05PL				
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage <div style="text-align: center; font-size: 1.2em;">COOL 4°C</div>				Preservation		None	Cool 4C	Cool 4C
				Type of Container		aG	aG	aG
				No. of Container(s)		1	1	1
				Volume		60mL	120mL	60mL
SAMPLE ANALYSIS				See item (1) in Special Instructions.		Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	
Sample No.	Matrix *	Sample Date	Sample Time					
J00NLO	SOIL	5.13.03	0900	X	X			
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				
Relinquished By/Removed From R. F. Fahlberg		Date/Time 5.13.03		Received By/Stored In 3A 3728		Date/Time 5.13.03		
Relinquished By/Removed From REF 3A 3728		Date/Time 51603 1100		Received By/Stored In SJOALC		Date/Time 51603 1100		
Relinquished By/Removed From SJOALC		Date/Time 51603 1100		Received By/Stored In FED EX		Date/Time		
Relinquished By/Removed From Fed Ex		Date/Time 5.17.03 1155		Received By/Stored In J. J. J. J.		Date/Time 5.17.03 1155		
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		
LABORATORY SECTION Received By _____ Title _____ Date/Time _____				SPECIAL INSTRUCTIONS (1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5.16.03				
FINAL SAMPLE DISPOSITION Disposal Method _____ Disposed By _____ Date/Time _____				Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other				

Bechtel Hanford Inc.			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-98		Page 1 of 1				
Collector Fahlberg			Company Contact M Stankovich			Telephone No. 531-7620			Project Coordinator KESSNER, JH			Price Code 8B		Data Turnaround 7 Days	
Project Designation Remaining Sites Confirmation Sampling-Soil			Sampling Location 600-139			SAF No. B03-015			Air Quality <input type="checkbox"/>						
Ice Chest No. ERC 96 039			Field Logbook No. EL1577			COA C17HXU671C			Method of Shipment Fed EX						
Shipped To TM/RECRA			Offsite Property No. A030231						Bill of Lading/Air Bill No. SEE OSPC						
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage Cool 4°C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
				Type of Container		aG	aG	aG	aG	aG	aG				
				No. of Container(s)		1	1	1	1	1	1				
				Volume		60mL	240mL	120mL	60mL	120mL	120mL				
SAMPLE ANALYSIS				See item (1) in Special Instructions.		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	Sulfides - 9030	Total Cyanide - 9010					
Sample No.		Matrix *		Sample Date		Sample Time									
JOONK7		SOIL		5-13-03		0920		X	X	X		X	X		
JOONK8		SOIL		5-13-03		0920		X	X	X		X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS					Matrix *		
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # <u>3A</u> on <u>5/16/03</u>					S=Soil SE=Sediment SO=Solid SI=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other		
R. Fahlberg		5-13-03		3A 3728		5-13-03									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
BEE 3A 3728		5/6/03 1100		S. GALE		5/6/03 1100									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
S. GALE		5/6/03 1100		FED EX											
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
J. Fahlberg		5-7-03 1155		J. Fahlberg		5-17-03 1155									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time									
LABORATORY SECTION		Received By				Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method				Disposed By				Date/Time					

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				DUS-013-100	
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH	
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area		SAF No. B03-015		Price Code 8B Air Quality <input type="checkbox"/>	
Ice Chest No. ERC 99 055		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex	
Shipped To <u>TM/RECRA</u>		Offsite Property No. A03023.2		Bill of Lading/Air Bill No. EXE OSP.C			
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation	None	Cool 4C	Cool 4C
				Type of Container	aG	aG	aG
				No. of Container(s)	1	1	1
				Volume	60mL	120mL	60mL
SAMPLE ANALYSIS				See item (1) in Special Instructions	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	
Sample No.	Matrix *	Sample Date	Sample Time				
J00NPO	SOIL	5-14-03	0830	X	X	X	
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS	
Relinquished By/Removed From Doug Bowers Date/Time 5-14-03/1130		Received By/Stored In Ref 3A Date/Time 5-14-03/1130		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Do not use for QA/QC. Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03		Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From Ref 3A Date/Time 5/6/03 1100		Received By/Stored In SSCALE Date/Time 5/6/03 1100					
Relinquished By/Removed From SSCALE Date/Time 5/6/03 1100		Received By/Stored In FED EX Date/Time					
Relinquished By/Removed From QRE Date/Time 5-17-03 1155		Received By/Stored In JV PUGH Date/Time 5-17-03 1155					
Relinquished By/Removed From		Received By/Stored In					
Relinquished By/Removed From		Received By/Stored In					
LABORATORY SECTION		Received By		Title		Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time	

Bechtel Hanford Inc.			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B03-015-102		Page 1 of 1		
Collector Doug Bowers			Company Contact Mike Stankovich			Telephone No. 372-9082			Project Coordinator KESSNER, JH		Price Code 8B	
Project Designation Remaining Sites Confirmation Sampling-Soil			Sampling Location 600-181 oil dump area			SAF No. B03-015			Air Quality <input type="checkbox"/>		Data Turnaround 7 Days	
Ice Chest No. ERC 99 055			Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex					
Shipped To TM/RECRA			Offsite Property No. A030232				Bill of Lading/Air Bill No. SEE OPR					
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage					Preservation	None	Cool 4C	Cool 4C	Cool 4C	40C		
					Type of Container	aG	aG	aG	aG	aG		
					No. of Container(s)	1	1	1	1	1		
					Volume	60mL	250mL	120mL	60mL	60mL		
SAMPLE ANALYSIS					See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA 8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (total) 418.1			
Sample No.	Matrix *	Sample Date	Sample Time									
J00NN7	SOIL	5-14-03	0900	X	X	X						
J00NN8	SOIL	5-14-03	0900	Y	X	X						
J00NN9	SOIL											
CHAIN OF POSSESSION												
Relinquished By/Removed From Doug Bowers Date/Time 5-14-03/1130				Received By/Stored In REF 3A Date/Time 5-14-03/1130				SPECIAL INSTRUCTIONS (1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # 3A on 5/16/03				
Relinquished By/Removed From REF 3A Date/Time 5/6/03 1100				Received By/Stored In SJGAL Date/Time 5/6/03 1100								
Relinquished By/Removed From SJGAL Date/Time 5/6/03 1100				Received By/Stored In FED EX								
Relinquished By/Removed From EX Date/Time 5/17/03 1155				Received By/Stored In EX Date/Time 5/17/03 1155								
Relinquished By/Removed From				Received By/Stored In								
Relinquished By/Removed From				Received By/Stored In								
Relinquished By/Removed From				Received By/Stored In				Matrix * S=Soil SE=Sediment SO=Solid SJ=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WJ=Wipe L=Liquid V=Vegetation X=Other				
LABORATORY SECTION		Received By		Title				Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time				

Bechtel Hanford Inc.			CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-99 Page 1 of 1				
Collector Fahlberg			Company Contact M Stankovich			Telephone No. 531-7620			Project Coordinator KESSNER, JH				
Project Designation Remaining Sites Confirmation Sampling-Soil			Sampling Location 600-139			SAF No. B03-015			Price Code 8B Data Turnaround 7 Days				
Ice Chest No. ERC 96 039			Field Logbook No. EL1577			COA C17HXU671C			Method of Shipment Fed EX				
Shipped To <u>TMA/RECRA</u>			Offsite Property No. A030231			Bill of Lading/Air Bill No. see OSLC							
POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Special Handling and/or Storage cool 4°C				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
				Type of Container		aG	aG	aG	aG	aG	aG	aG	
				No. of Container(s)		1	1	1	1	1	1	1	
				Volume		60mL	240mL	120mL	60mL	60mL	120mL	120mL	
SAMPLE ANALYSIS				See item (1) in Special Instructions.		PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1	Sulfides - 9030	Total Cyanide - 9010		
Sample No.		Matrix *	Sample Date	Sample Time									
J00NK9		SOIL	5-15-03	1200	X	X	X		X	X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # <u>3A</u> on <u>5/16/03</u>					
R-Fahlberg		5-15-03		3A		5-15-03							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
REF 3A		51603 1100		S. GALE		51603 1100							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
S. GALE		51603 1100		FED EX									
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		Matrix * S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other					
D. E.		5-17-03 1155		J. D. Miller		5-17-03 1155							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time							
LABORATORY SECTION		Received By		Title				Date/Time					
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time					

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B03-015-102		Page 1 of 1				
Collector Doug Bowers		Company Contact Mike Stankovich		Telephone No. 372-9082		Project Coordinator KESSNER, JH		Price Code 8B		Data Turnaround				
Project Designation Remaining Sites Confirmation Sampling-Soil		Sampling Location 600-181 oil dump area				SAF No. B03-015		Air Quality <input type="checkbox"/>		7 Days				
Ice Chest No. <u>ERC 99 055</u>		Field Logbook No. EL-1578		COA C17HXU671C		Method of Shipment Fed Ex								
Shipped To TM/RECRA		Offsite Property No. <u>A030 232</u>				Bill of Lading/Air Bill No. <u>SEE 007 L</u>								
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage					Preservation	None	Cool 4C	Cool 4C	Cool 4C	4°C				
					Type of Container	aG	aG	aG	aG	ab				
					No. of Container(s)	1	1	1	1	1				
					Volume	60mL	250mL	120mL	60mL	60mL				
SAMPLE ANALYSIS					See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH total 418.1					
Sample No.	Matrix *	Sample Date	Sample Time											
J00NN7	SOIL													
J00NN8	SOIL													
J00NN9	SOIL	5-17-03	1300	X	X	X		X						
CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS					Matrix *				
Relinquished By/Removed From <u>Doug Bowers</u>		Date/Time <u>5-15-03/1430</u>		Received By/Stored In <u>RAF 3A 3728</u>		Date/Time <u>5-15-03/1430</u>		(1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV) Personnel not available to relinquish samples from the 3728 Ref # <u>3A</u> on <u>5/16/03</u>				S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From <u>RAF 3A 3728</u>		Date/Time <u>5/16/03 1100</u>		Received By/Stored In <u>SJGALON</u>		Date/Time <u>5/16/03 1100</u>								
Relinquished By/Removed From <u>SJGALON</u>		Date/Time <u>5/16/03 1100</u>		Received By/Stored In <u>FED EX</u>		Date/Time								
Relinquished By/Removed From <u>Joe E</u>		Date/Time <u>5/16/03 1155</u>		Received By/Stored In <u>Joe E</u>		Date/Time <u>5/16/03 1155</u>								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
LABORATORY SECTION		Received By		Title		Date/Time								
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By						Date/Time				

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 5-17-03

AF# / SOW# / Release #: 803-015

Laboratory SDG #:

0305L432

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

- | | | | | |
|--|---|-----------------------------|---|--|
| 1. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 2. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 3. Airbill # recorded? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 5. Sample containers are intact? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 7. All samples on coc received? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 8. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 10. Shipment meets LVL Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 11. Where applicable, bar code labels are affixed to coc? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 12. coc signed and dated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 13. coc will be faxed or emailed to client? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |
| 14. Project Manager/Client contacted concerning discrepancies? (name/date) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> see Comment # |

Cooler # / temp (°C) and Comments:

ERC 99055 / 0.8° -

ERC 96039 / 0.3°

Laboratory Sample Custodian:

Laboratory Project Manager:

[Signature]